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RELATION OF THE DEVELOPMENT OF THE GASTRO-INTESTINAL TRACT TO ABDOMINAL SURGERY *

W. J. MAYO, M.D.

ROCHESTER, MINN.

THE RELATION OF ANATOMY TO PRESENT DAY SURGERY

The late Corydon L. Ford, professor of anatomy at the University of Michigan Medical School, was justly considered the greatest teacher of anatomy of his time. I well remember the three years in which I studied anatomy under him, and the impression he made on the students by his clear and forceful presentation of this ordinarily dry subject. He was then a man past middle life; he wore a beard, shaved the upper lip, and because of a congenital clubfoot he walked with a decided limp by the aid of an ivory-headed cane. I speak of these physical factors because they were part and parcel of the man in relation to his teaching. He presented anatomy not alone as a fundamental science which it was necessary to master for the purpose of laying a foundation for clinical medicine, but as a living thing to be considered in almost every professional act. He was closely in touch with the clinical issues of his time, and with anatomy he taught most valuable lessons in physiology and pathology, so that the student gained knowledge of his subject in its relation to his work. The university courses in surgical anatomy were excellent, yet Ford taught us more surgical anatomy than we learned in these special courses, and he also taught us medical anatomy, in order that we might see the patient from the anatomic standpoint, and recognize pathologic deviations from the normal in the early stages. We were drilled in the use of Holden's "Anatomical Landmarks"; I have spent many hours with this little book, going over the living body that I might learn the relation of the external to the internal.

As volunteer assistant I had the further privilege of demonstrating anatomy at the University of Michigan, and the fascination for anatomic detail in relation to medicine and surgery has remained with me. My seat companion was the late Franklin P. Mall, afterward professor of anatomy at Johns Hopkins, and the most distinguished anatomist of his time. Mall was a choice spirit, an anatomist of the research type. On one occasion in showing me the manner in which the heart, by its peculiar twisting contraction, empties all the blood from its cavities as one would wring a cloth, he remarked that a cavity like the bladder cannot empty itself to the last drop by contractions alone. He said that anatomy since Ford's time had dealt too much with abstract matter. Mall's observation has an important bearing on catheter cystitis, an infection of a small amount of residual urine in an overstretched organ.

During my active experience in surgery, working with many different assistants, I have not always been impressed with their knowledge of anatomy, although all have possessed a fair knowledge of pathology. At times it would seem that they were more familiar with minute pathology than with anatomy. Miscroscopic histology and pathology, while not overdone, have been allowed to overshadow anatomy and gross pathology—these the surgeon or internist must see with his own eyes if he is to do his best work. It is a question in my mind whether, generally speaking, anatomy is as well taught today as it was in my student days; whether it is taught with a view of instilling in a man a love for the subject, or merely as a foundation for medical practice. I believe this tendency is correctly interpreted by teaching anatomists of the type of Jackson and others, who are taking steps to remedy the existing defects by the better balancing of anatomic teaching. This is also true of the teaching of present day pathologists.

In surgery of the abdomen especially, a wide knowledge of embryology and anatomy is essential. In the olden time when operations were done in late periods of pathologic conditions, and were destructive rather than reconstructive because it was necessary to save life and it was too late to save function, one could fully appreciate the answer of the distinguished surgeon who originated excision of the hip when asked concerning the anatomic details of the operation: "Damn the anatomy; stick close to the bone." Today the bulk of surgery is not done for gross defects but for pathologic conditions which have not deviated from the normal to such an extent that destructive surgery is necessary, but are still in condition for reconstruction. It has been said that the anatomist never made a good surgeon: that it was the pathologist who made the surgeon. This is true only of the vanishing German type. The surgeon of tomorrow must follow in the footsteps of such men as Deaver; he must be an anatomist and a physiologist, and living pathology must hold a greater place in his mind than the pathology which has been developed from the mortuary and has dominated medicine for the past generation.

For many years I have been interested in elucidating problems of surgery of the abdomen. Clinical diag-

* Mayo Foundation lecture, given before the University of Minnesota Graduate School of Medicine and the Physicians and Surgeons Club, Rochester, Minn., Dec. 4, 1919.

nosis has been notoriously unreliable, and the postmortem does not show the chronic disease from which the patient was sick during life, but rather the particular complication from which he died. Always, when I have faced a new problem in this field, I have gone back to embryology, anatomy and physiology in order to gain an idea of the meanings of those pathologic deviations which we are called on to treat. It may not be out of place at this time to outline sketchily some of the anatomic and physiologic principles that have grown up with the surgery of the abdomen, and on which depends the explanation of many phenomena that could not otherwise be understood.

From the time the food passes through the pharynx until it enters the rectum we have comparatively little control over it. Some control is exercised in the esophagus and even in the fundus of the stomach so that by initiating retrograde movements, retching, and so forth, some food may be ejected. The same is true in the sigmoid; but even in it the control at best is but partial and indirect. The biologists have pointed out that the theory of the three blastodermic membranes is a working rule and not a law, having many exceptions; but at least it leads to logical thought. To a certain extent this is also true of the idea of the derivation of the gastro-intestinal tract from the fore, middle and hind guts. Yet these primitive derivatives, while not as exact in the present day human body as might be desirable from a purely scientific point of view, have great value as outlines for the student.

From the foregut come the stomach, the duodenum down to the common duct, the liver and the pancreas, all organs which prepare food for digestion but do not themselves absorb. The stomach does not absorb even water, although it will take up certain chemicals and poisons, alcohol, for instance. The derivatives of the hindgut likewise absorb nothing except certain chemical substances, and rectal feeding, as spoken of in its ordinary sense, does not exist: it is simply a means whereby material placed in the rectum is quickly carried by what Bond calls "mucous currents" back into the derivatives of the midgut for absorption. The so-called colon tube passes out of sight through the anus, coiling in the rectum, and but seldom passes the rectosigmoid barrier. The derivatives of the foregut have their blood supply from the celiac axis. The derivatives of the midgut, in which absorption takes place, are supplied from the superior mesenteric artery, while the inferior mesenteric artery supplies the derivatives of the hindgut as far down as the rectum, and very largely the rectum also, although the rectum and anal canal obtain a small supply from the middle and external hemorrhoidals because of their origin from the cloaca and the proctodeum.

Rosenow's work on the specificity of bacteria shows that bacteria that have been cultivated in certain soils, in the gallbladder, for example, when placed in the circulation, are peculiarly attracted to the organ to which they have been acclimated. That is, strains of bacteria derived experimentally from a gallbladder will more often set up a cholecystitis than if they were derived from some other organ. This is true along so many lines connected with the vascular system that we must admit at least the possibility that the blood supply is to a certain extent specific and that organs exercise some peculiar chemotaxis which physiologically and pathologically directs certain substances of the blood content to them. How else can we explain the rapidity with which phenolsulphonephthalein is eliminated through the kidneys? And recent work in physics suggests that the attraction may be a physicochemical one. Very delicate instruments appear to show that each organ has its own electrical reactions and polarity, suggesting that cancerous growths can be recognized in this way.

Embryologically the first portion of the duodenum ends, not at the pylorus but at the common duct, and the duodenum above the common duct embryologically is a part of the stomach and a vestibule to the small intestine; like the stomach and other acid-containing organs, it is extremely liable to ulceration. Ulcers of the duodenum occur more commonly in men than in women, possibly because the first portion of the duodenum in women is more nearly horizontal, naturally permitting of a higher alkaline level for the bile and pancreatic juice, and thereby reducing the liability to ulceration. In animals with bilocular stomachs the division between the two stomachs is at the incisura of the human stomach, and the physiologic activity of the pyloric half of the stomach, especially at the incisura, is quite evident on roentgen-ray examination, although the musculature composing the primitive sphincter has disappeared.

The termination of the absorbing intestinal area in the transverse colon near the splenic flexure embryologically marks the end of the absorbing area. It is interesting to note that, although the proximal half of the large intestine has no marked anatomic differences from the left half, in the embryo villi are to be found in the right half which are similar to the villi of the small intestine, although they disappear as development proceeds. An observer, watching with the roentgen ray the churning back and forth in the head of the colon sees that the greater part of this activity is proximal to the location of the cecocolic sphincter which exists in the ascending colon of some of the lower animals, and that physiologic contractions are most marked in this situation. Retardation of the passage of food through the intestinal tract has its origin in embryologic physiology. Muscular control by means of sphincters, delay by means of the valvulae conniventes which also present larger exposed surfaces for absorption, delay by sacculations, as in the large intestine, and mechanical delays, such as the high attachments of the splenic flexure which necessitate muscular activity in order to pass the food refuse into the nonabsorbing part of the large intestine and render the descending colon physiologically empty, are examples. The rectosigmoid is a most remarkable mechanical device for retardation of food end-products. Since nature is most sparing of waste, even of water, in the terminal half of the large intestine, especially the sigmoid, the fluids are gradually squeezed out of the refuse and passed by reverse currents back into the proximal half of the colon for absorption.

Rotation has great surgical significance. In the embryo and in many lower animals throughout life the stomach hangs with its lesser curvature facing ventrally; and embryologically the lesser curvature is the anterior wall of the stomach. Rotation turns the stomach and pancreas on their right sides. The pancreas, embryologically an intraperitoneal organ, loses its posterior layer of peritoneum, which becomes fused behind with the fascia. This explains why, in the type of acute pancreatitis and fat necrosis which might be picturesquely called "perforation," the pancreas may involve the fat behind the peritoneum as well as the intra-abdominal fat; why occasionally, in traumatism,

pancreatic secretions escaping into the lesser cavity of the peritoneum may penetrate into the omentum and form a collection of fluid in what is known as the omental bursa, reopening the cavity which in fetal life exists between the layers of the omentum before they are fused as high as the transverse colon.

The position of the duodenum is altered by rotation and its third portion becomes retroperitoneal, a fact of great importance in connection with operations on the right kidney. Unless care is exercised in performing a nephrectomy in cases in which there is chronic inflammation around the pelvis, and especially in malignant disease, the duodenum may be injured, and immediately or a few days later a fistula form from which the patient may die unless it is repaired anteriorly by a transperitoneal operation. Very scanty mention of this accident is found in the literature, but I have reported several cases of this character. Unless careful dissection is made, this retroperitoneal portion of the duodenum also may be injured in the removal of cancers of the ascending colon.

Rotation as it affects the intestinal tract is also of great surgical importance. The large intestine, having its origin on the left side of the body, passes to the right and does not reach its normal situation until after birth. The late peritoneal attachments are often described as veils or adhesions, and are given unwarranted credit for causing trouble. Failure of rotation or partial rotation will cause the physical signs of an appendicitis to appear at whatever point the rotation of the head of the colon is interrupted. The attachments of the large intestine to the right side are not only late and less close than those on the left, but also, since the cubic capacity of the right lower thorax is less than that of the left lower thorax, because of the liver, the right kidney normally lies lower than the left. The nephrocolic ligament may be called on to bear much of the weight of the head of the imperfectly attached colon which acts like the car attached to a balloon, and may, by traction, drag the kidney down. We think of the large intestine as having a short mesentery; but as a matter of fact, it has a very long mesentery on the inner side, which is the only side of importance, as the blood vessels, lymphatics and nerve supply are always to be found in the inner long leaf which follows the colon during its migration. The outer peritoneal attachments which hold the colon in place laterally may, therefore, be divided without encountering any structures of importance, and the large intestine, on its long inner leaf of mesentery, can be drawn out of the body for easy manipulation and operation. There is one exception, that is, the attachments of the splenic flexure are derived from the omentum and contain a blood vessel which must be tied. Some years ago I called attention to this method of mobilizing the large intestine, which is based on these anatomic facts and very greatly aids in operations on the colon.

The small intestine, originating in six primary convolutions on the right side, has its mesenteric attachment from left to right, from above downward, passing behind the umbilicus. This is the reason why in obstructive and other disturbances of the small intestine, unless localized by involvement of the peritoneum, the pain is referred to the vicinity of the umbilicus, although the cause of the pain may be in a loop of intestine at a distance. In picking up a loop of small intestine, it is sometimes difficult to determine which direction is up and which is down. Monks, in a beautiful piece of work, has shown how this can be done with facility. If a loop of intestine drawn out of an abdominal incision is held by an assistant, and the surgeon, grasping the intestine with the fingers on one side and with the thumb on the other, passes down to the bottom of the mesentery, and finds that his fingers and thumb still grasp the root of the mesentery as started above, the direction is up and down; but if the position is reversed at the base, then the direction is the opposite. In picking up a piece of small intestine one should be able to recognize the part of the bowel from its appearance. The upper jejunum is thick and wide, the mesentery is thin, and the vessels are large, long and straight, having but one or two primary arcades close to the base. In the lower ileum the intestine is thin and the mesentery thick, the fat sometimes following the vessels a little way up along the intestinal wall. The vessels are smaller, shorter, and there are a number of arcades, sometimes two, three or four, in the adjacent mesentery. Attention to these details makes ready differentiation possible.

The study of the peritoneum is profitable to the surgeon. The resistance of the peritoneum to infection is an inherited faculty. The meninges and pleura have less resistance. In the earthworm (common angleworm), the food, in its progress through the primitive gastro-intestinal canal, is admitted into the coelom, or body cavity, which is the forerunner of the peritoneum, for direct absorption. The contaminated peritoneum before infection takes place usually needs no drainage after mechanical cleansing; drainage often does harm rather than good. The slowly acquired special resistance of the pelvic peritoneum of women to infections in the course of countless generations of suffering from puerperal and other infections, is well known; and the mortality rate of operations involving the pelvic peritoneum, such as resections of the rectum for cancer, is much less in women than in men.

Let me repeat that the teaching of anatomy, as related to constructive surgery rather than to the destructive surgery of the past, should be based on the needs of the surgeon of today, to enable him to cope with the diseases of today. If I were to write a book (I have no intention of inflicting one on the medical public), I should take up the fascinating story of embryology, anatomy and physiology in relation to the work of the surgeon of tomorrow, the story of the anatomy of the living to enable us to treat the pathology of the living during the early stage of deviation from the normal physiologic state.

COORDINATION OF THE FUNCTIONS OF THE GASTRO-INTESTINAL TRACT

The two most primitive functions of a living body are maintenance of nutrition, and reproduction; and nature has thrown about these functions the greatest possible number of safeguards. First, the body must be nourished, and second, new life is to be brought into being. This is as true of the simple cell as of the most complex organism. The more ancient the organ, the greater its resistance. The small intestine has an enormous resistance to disease and seldom is the seat of neoplasm. The testicle, which is the primitive reproductive organ, has a long heredity and freedom from disease. On the contrary, the ovary, which is descended from the testicle is, like other less ancient organs, such as the stomach, the rectum and the large intestine, a frequent seat of neoplasm.

Methods of control over the visceral functions were established before man had a central nervous system; these controls are still independent of it. It might even be surmised that the attempt of the central nervous system to gain control over visceral and other functions previously established may have to do with neurasthenia, especially its visceral manifestations. Starling well says that those internal secretions which he calls hormones precede all types of nervous systems in visceral control. One is perhaps justified in looking on the sympathetic as the more primitive nervous system and in believing that the means whereby the central nervous system is attempting to gain this control over the vegetative functions is through the autonomic nervous system.

The liver, entirely separated from all its connections, can be made to secrete bile, and the kidney similarly to secrete urine. For that matter, the entire viscera have been completely separated experimentally from the nervous system and even lifted out of the body, and by appropriate mechanical connections made to live and function for some hours. The central nervous system, we find, has more or less control of those organs which have been added more recently, especially organs of convenience, such as the fundus of the stomach, into which a quantity of food may be placed rapidly for elaboration, as the magazine of a coal stove may be filled. The sigmoid and the bladder also have temporary storage function; but in other respects the central nervous system, beyond initiating action, plays a small part in vegetative life.

The growth of the central nervous system in relation to the organs of special sense is interesting. First, the sense of taste, which made the selection of food possible; second, the sense of smell, which enabled the primitive stoma to be turned toward food, and third, the sense of hearing, which was placed in the middle of the head because danger threatens from behind as well as in front. The sense of sight came during the rapid development of all the higher cerebral faculties, and direct pathways were established between the eye and all parts of the brain, so that the sense of sight overshadows in importance the other special senses. Even memory in most persons has its basis in visual phenomena. The relatively short heredity of the central nervous system accounts for its instability.

It is interesting to note that the sympathetic nervous system is in close relation with the endocrine glands, and that the importance of the internal secretion of an organ may be estimated by the closeness of its relation to the sympathetic system. The pituitary, one-half sympathetic and one-half gland, the suprarenal, with its similar association, and the thyroid, are examples; the spleen has no internal secretion of great importance, and only small connection with the sympathetic system.

Still another form of control is found in the primitive character of the nonstriated muscle. These fibers have the power of originating motion independent of a known nervous system. A little piece of the wall of the small intestine will contract for hours when placed in Locke's solution and properly stimulated. Many visceral functions are dependent on the nonstriated muscle. We are indebted to Keith for revelations with regard to the curious nodal system which acts to collect the impulses that have their origin in the primitive fibers of the nonstriated muscle. This has been most carefully studied with reference to the heart. The heart-beat starts in the sinu-auricular node, is diffused through the auricular musculature, and is passed by the muscle-band of His to the ventricles, timing the ventricular beat. Keith's nodes are composed of a curious type of primitive muscle-cell with some fine fibers from the autonomic nervous system which evidently were added later. These nodes are in effect the controlling ganglions of the action of the nonstriated muscle in organs. Keith has pointed out the situation of eight nodes, four located and four not fully identified, through which control is maintained. When food passes through the pharynx, all direct control is at once lost, and here is situated the first node. The cardia is a true sphincter and normally is closed. The food passing through the esophagus arouses contractions in the nonstriated muscle of the esophagus; these impulses are carried to the second node, which relaxes the cardiac orifice. Failure to relax the cardiac orifice results in that curious condition called cardiospasm from which many persons suffer and starve for years, and often die from obstruction supposed to be due to cancer. If we have knowledge of the nature of the disease, cure is easy and certain. The third node is not at the pylorus as one would think, but at the termination of the primitive foregut near the common duct. It is interesting to note that, as pointed out by Ochsner, there are remnants of a prehistoric sphincter at this point. Disturbances of this node produce the condition called pylorospasm, which accounts for many gastric disturbances masquerading under different names. This node is also concerned in chronic gastric atony and some of the phases of acute dilatation of the stomach. The fourth node is near the duodenojejunal juncture and is concerned normally in peristalsis and in segmentation or pendulum movements of the small intestine, and abnormally in producing gastromesenteric ileus. The fifth node is at the ileocecal juncture and is concerned with many of those phenomena about which Lane has written so interestingly under the general head of ileac stasis. The sixth node is near the middle of the transverse colon, and through its control of antiperistalsis prolongs the retention of food products for absorption in the right half of the colon. The seventh node is in the rectosigmoid region, and disturbances in the function of this node are probably responsible for the giant colon of Hirschsprung's disease. The last, or eighth, node is concerned with rectal control.

It may be said that wherever nonstriated muscle exists, the power of originating contraction exists. The intestine, like the heart, has two beats. The first, called the peristalsis, beats once or twice to the minute. The second, as pointed out by Mall, is the heart of the portal circulation and beats from eighteen to twenty times a minute, forcing the blood to the liver. In the pregnant uterus, the beat of the nonstriated muscle is recognized as the uterine contractions of pregnancy. Keith points out the part played by the nodes in controlling peristalsis, and suggests that they act like a block system on a railroad, and control food progress by controlling sphincters.

The endocrine glands secrete substances which Starling has called hormones; they act through the blood stream and form a most interesting chapter in visceral control; they are closely allied to the sympathetic nervous system, and are often found in glands of double function or glands that at one time have had an external as well as an internal secretion. The gonadial

secretion derived from the interstitial cells of the generative organs controls sex characteristic even when the genital elements are absent. The relation of the external pancreatic secretion dealing with the digestion of fats, starches and proteins has only an indirect connection with the tissue of Langerhans, which has to do with sugar metabolism. The thyroid in the king scorpion is a reproductive gland, and the thyroid function in the human being is closely connected with puberty, in the female, with the pregnant state. Types of life are found in which the thyroid functioned through the digestive tract, and the foramen cecum at the base of the tongue in man marks the site where this secretion was at one time discharged into the intestinal canal. In the present stage of human development, the thyroid is entirely an organ of internal secretion; but through its influence on other endocrine glands, it assists in maintaining reproductive and digestive functions.

The pituitary gland probably corresponds to the strainer gland in the fish stage, and in the course of development was left within the skull instead of on the side of the pharynx. It contains elements derived from the pharyngeal mucosa, and many of its tumors show pharyngeal heredity. Is it possible that this gland, which is so important in the growth of the body, is favorably affected through improved circulation by the removal of diseased adenoids and tonsils? Certainly one often sees a child of slow development, after an operation for removal of tonsils and adenoids, make a most striking physical and mental gain. The coccygeal body (gland of Luschka) has no known function, but it is connected with that stage of development in which the primitive hind or tail gut was part of the neurenteric canal. These prenatal vestiges may be the source of dermoids or neoplasms of peculiar nature, not infrequently malignant, lying in the hollow of the sacrum behind the rectum and eroding the bone. Some theorists have called the external vestigial remnants of the neurenteric canal the posterior umbilicus, and believe that the sequestration dermoids so frequently found in the lower sacral and coccygeal midline have this origin. Keith points out that the internal secretions of the five important endocrine glands, pituitary, suprarenals, gonadial, pineal and thyroid, control racial characteristics of the three great divisions of man, Caucasian, Negro and Mongol.

The sympathetic nervous system was a later develment, and correlates visceral action. It stimulates the function of endocrine glands, and is in turn stimulated by their secretions. To the great English physiologist Gaskell we owe our knowledge of the involuntary nervous system. His first work on the visceral nervous system was published in the early eighties. Gaskell pointed out that certain small-calibered medullated nerves pass from the anterior horns of the spinal cord to the great sympathetic ganglion of the thorax and abdomen, which connects the central nervous system with the sympathetic. These connecting nerves enable emotions originating in the central nervous system to influence the sympathetic ganglion. From the sympathetic ganglion small nonmedullated fibers pass directly to their distribution forming the sympathetic nervous system. Gaskell also showed that there are nerves of the same kind which have visceral functions arising from the cranial nerves, and he called these parasympathetics. They are composed of the vagus nerve, the fibers in the third, seventh and ninth cranial nerves, and the pelvic nerve from the sacral plexus. The parasympathetics are small-calibered medullated nerves with ganglion cells near their distribution, as in the heart itself and in the plexuses of Auerbach in the wall of the intestine. Neither the sympathetics nor the parasympathetics are under the control of the will, and when distributed to the same organ they follow Sherrington's law in that they are antagonistic.

Langley, who contributed much to this work, called the combined sympathetic nervous system (thoracic and lumbar ganglions) and the parasympathetic (cranial and pelvic) the autonomic system. American physiologists, especially Cannon and Crile, have contributed largely to this work. Gaskell pointed out that the sympathetic ganglions develop widespread reactions to stimuli which exercise inhibitory control over the vegetative system independent of the will, and inhibit the parasympathetics. The cerebrospinal nervous system produces conscious and accurate action of the striated muscle system, but has no control, and only indirect effect, on the nonstriated muscles. Langley, Crile, Cannon and Brown have made practical application of Gaskell's discoveries, showing how the fibers derived from the sympathetic ganglions, acting for defense, produce the most widespread and sudden effect when excited by emotions such as fear or anger. The digestive tract is temporarily deprived of function; the heart action and respiration increase in rapidity and strength, the glands of internal secretion, especially the suprarenals and thyroid, are activated, and sugar reserves in the liver and body generally are thrown into the blood stream to enable greater muscular action.

It is interesting to note that the nerves of Gaskell from the anterior horns of the spinal cord to the sympathetic ganglions are direct, and it is only those nerve fibers derived from the sympathetic ganglions themselves that pass to the various organs to produce the widespread effects spoken of, with the exception of the suprarenal gland, which receives fibers from the cord en route. The suprarenal contains within itself true nerve cells, as though at one time a start had been made for a different type of control from that which was afterward developed through the sympathetic ganglions. The parasympathetics of Gaskell, as related to the gastro-intestinal viscera, are composed of the vagus nerve derived from the bulbar division of the parasympathetics, and the pelvic nerve from the sacral plexus. When the emotions, which acting through the sympathetic system cause the sudden necessity for instantaneous use of all the body reserves, have passed away the vagus nerve comes into action and causes the heart to beat more slowly, and reduces respiration. The digestive tract, the stomach, intestine, liver and pancreas, which have been temporarily inhibited by the sympathetic fibers from the solar plexus, are stimulated to function through the vagus parasympathetic acting as a motor nerve through the plexus of Auerbach, and the pelvic parasympathetic motor nerve again permits conscious control of the bladder, sigmoid and rectum, which had been inhibited by the sympathetic fibers from the inferior mesenteric ganglion. One may well believe, however, that while these functions are checked by the sympathetic and are caused to resume action by the parasympathetics, control of their normal activities goes back to the nonstriated muscles, and the internal secretions which were the earliest forms of control. The gastro-intestinal tract is, therefore, largely con-

trolled in its functions by the nonstriated muscle and by chemical substances acting through the blood. The sympathetic ganglions act to inhibit these functions temporarily to produce rapid catabolism and spend reserves prodigally. The parasympathetics set in motion the interrupted anabolic activities and maintain reserves for future emergencies.

It may seem that these well known anatomic and physiologic details need no reiteration, and yet in my association and teaching of younger men in the profession I find that while they may know these facts, they often fail in their interpretation of them. The interpretation of the interesting phenomena which I have cited may not be correct in given instances; but if by "near-right" theories a dry subject may be made to live, the means will be justified and the strain on our memories will be less. We must not forget that memory training is the Confucian method which certainly has not led the Chinese in the paths of progress. Facts do not change. The interpretation of facts constantly changes, and new interpretations of old and new facts are the source of progress. Only as we are doubtful of our interpretations can we hope to advance scientifically.

EPIDEMIC (LETHARGIC) ENCEPHALITIS

CLINICAL REVIEW OF CASES IN THE PACIFIC NORTHWEST *

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"Westward the star of empire wends its way" setting an example that is followed with celerity by the humble but none the less busy germ. Most great epidemics have originated in the crowded centers of Europe or possibly of Asia and thence have traveled westward. On reaching the United States they have developed first on the Atlantic seaboard, within a few weeks or months have traveled to the Middle West, and within a year have invaded the Far West. The great epidemic of poliomyelitis[1] was reported in Sweden in 1905, visited the eastern part of the United States in 1907 and 1908, and came to the Pacific Northwest in 1909 and 1910, that is, between one and two years after it was reported in epidemic form in New York, Massachusetts and in general throughout the East. It had been preceded by cerebrospinal fever by two years. Later, less extensive epidemics of cerebrospinal fever traveled the same way. In 1916 and 1917 poliomyelitis was again epidemic in the Pacific Northwest following similar epidemics in the East, but the disease was much milder and cases were fewer than in 1909 and 1910. Influenza was several months in traveling from the crowded portions of the East to the West, and we had well written accounts of it as it was witnessed in the army camps of the East months before it visited the Northwest.

Epidemic encephalitis proves no exception to the rule. According to Bassoe[2] it first appeared in Austria in 1917, reached France and England in 1918, and in the fall of the same year came to the United States. By the spring of 1919 cases were being reported throughout the Middle West. It reached the Pacific Northwest in October, 1919, appearing almost simultaneously in Portland, Seattle and Tacoma. Winslow[3] of Seattle presented a paper which was written in the latter days of October at about the same time that I first saw cases of the disease in Portland. At a meeting of the Portland City and County Medical Society, Oct. 29, 1919, I reported four cases of this disease, two of which had already been fatal, and I have since (to December 10) examined nine more patients whom I regard as indisputably having this disease and at least four more in whom the diagnosis was open to some doubt. In each of these doubtful cases I saw the patient only once, and I do not know the later course or history.

EPIDEMIOLOGY

Except for the statements already made indicating that the disease occurs in mild epidemics, there is no hint of the method of spread. One of the most curious coincidences that I have ever witnessed occurred among my first five patients, three of whom dated their first symptoms definitely to October 12, and these three patients were separated by a distance of miles and knew nothing of one another. No two cases have occurred in the same household. None of my patients gave a history of preceding influenza, but several of them had low blood pressure and were in poor physical condition at the time of onset, suggesting that whatever the infection, the soil has to be prepared. I am convinced that the disease is not contagious in the ordinary sense of the word, and that there is no reason for quarantining patients other than keeping them isolated in their rooms away from the rest of the household, a precaution which can do no harm and may result in good.

TYPES OF THE DISEASE

Most writers say that the invasion of epidemic encephalitis is slow and deliberate. This is true in some of the cases, but by no means in all. I think I have been able to identify two types of invasion, one of which is rapid and the other slow.

Type One.—The slow type is far more common than the rapid, having occurred in ten of the thirteen cases. In this type the predominating symptoms from the beginning were double vision, slight mental confusion, at times mild delirium, followed by other symptoms which depended apparently on the particular cranial nuclei involved. After a week or ten days, the patients appeared to improve and then developed the so-called lethargy to which the disease owes its name. During this week most of them suffered from insomnia and were given some form of sedative by the attending physician. With the development of the lethargic stage, of course nothing of that kind was required.

Type Two.—This is more interesting in a way than the first type, largely because the manifestations are more dynamic. In this type, the patients complained of some head pain followed by a rapidly developing delirium, which was acute and attended by hallucinations of sight and hearing of the most vivid character.

One patient, a professor, conversed with imaginary friends and acquaintances and delivered lectures to his classes day and night for four or five days. During this time he was

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* Read before the Oregon Association of Public Health Officers, Dec. 8, 1919.

* Owing to lack of space, this article is abbreviated by the omission of historical data and a discussion of the etiology of the disease. The complete article appears in the author's reprints.

1. House, William: Acute Anterior Poliomyelitis, Northwest Med. **2**: 259 (Sept.) 1910.

2. Bassoe, Peter: Epidemic Encephalitis (Nona), J. A. M. A. **72**: 971 (April 5) 1919.

3. Winslow, Kenelm: Epidemic Lethargic Encephalitis (Nona) in Seattle, Northwest Med. **18**: 209 (Oct.) 1919.

unable to identify his wife or the nurse, his physician and other visitors, though when asked who a visitor was and then told the name he would say, "Oh, yes I know you, you were here this morning," or something of that sort. He was tractable, could be induced to calm himself, and gave no serious trouble to those who attended him. In rational moments, he spoke of the "hallucinations" from which he suffered and understood that they were unreal, though he mingled fact and fiction at all times. His temperature rose to 104.6 F., gradually subsiding at the end of a week, when it became practically normal. The apathetic condition did not develop until the tenth day. Throughout the illness he complained of pain in the back of the neck and back of the left ear, which was deep seated and at first thought to be due to neuritis of the occipital group of nerves. After the beginning of the apathetic stage, this pain became more troublesome, making him restless at night, and he was sensitive to touch throughout this region.

Another patient with the same group of symptoms was delirious for ten days, lost his way about the house, and talked almost incessantly, yet when spoken to declared he felt well and insisted that he must return to his work, that of salesman, because of the holiday rush.

A third patient, a woman, aged 23, suffered from the most vivid hallucinations and was so violent that she had to be restrained in a sanatorium whence she was dismissed at the end of a week, quiet though still sick. Double vision and lethargy were present. The further history of this patient is unknown to me except that she is living.

It seems to me that these two types of invasion suggest the probability that the infection may attack the brain at different points. It has been thought that the invasion is from the nasopharynx and that the germ attacks the pons and the surrounding tissues. Such an invasion would produce a reaction in a region which would cause motor nerve palsies and the type of symptoms noted in Type 1. But there is no reason that I can see why the disorder may not equally well attack the anterior part of the brain in the region of the ethmoid. In that case, there would be signs of frontal lobe irritation which would naturally produce delirium, such as was witnessed in the three cases already discussed. This delirium was of a type such as I have seen in paresis, in cocainism and in at least two cases of rabies, in both of which necropsy revealed intense congestion and hyperemia of the anterior portions of the brain.

It is interesting to note that in two of these cases there was absence of double vision and the basilar symptoms described in the first group.

INDIVIDUAL SYMPTOMS

If I were to evaluate individual symptoms in the order of their frequency and importance, I should say that lethargy or apathy is not the most characteristic symptom. Instead I should select:

Euphoria.—This is the most striking symptom of the disease. A feeling of well-being was present in greater or less degree in every patient whom I examined. Notwithstanding unmistakable signs of grave illness, the patients seemed not to be worried by it. When asked how they felt, the patients almost invariably answered "pretty well." An Italian patient up to a few hours before his death invariably said, "Fine, fine, too many doctors," and since he had at least half a dozen he showed keen discriminating power. One patient who could not swallow and who had to be fed said she felt "pretty good," although she knew that talking was difficult and that in a way she was helpless. Even the delirium was never particularly unpleasant, seeming instead to be of a rather happy type. With convalescence, euphoria was replaced by mild depression in a majority of cases.

Apathy.—This is a better term than lethargy as descriptive of the tendency to quiescence. It begins apparently from ten to twelve days after the onset of symptoms. The patients were never fully asleep. Their expression was blank, their attitude somewhat rigid, and in at least two cases they lay in bed with the hands flexed in a typical parkinsonian attitude. I was early impressed with the fact that the patients really were not somnolent, an idea that I have since found had already been recorded by Bassoe. Indeed, they were extremely wakeful. They lay in bed with eyes downcast or closed, face muscles rather blank and expressionless, seemingly oblivious to what went on around them. But without exception it was possible to rouse them quickly by a spoken word. Their answers were all but monosyllabic, and they then immediately lapsed into the preceding stuporous condition. They took food when offered, sometimes muttered a little, their bodies were slightly rigid, and most of them complained more or less of muscular twitching and jerkings which might be anywhere in the body.

Double Vision.—This was present in eleven cases. It was a vague kind of trouble. One patient first complained that while driving a team of horses he had never seen the automobiles so crazy, all of them wanted to run over him. It was four days before he was able to describe this difficulty of sight as double vision. This double vision was present in all eleven cases during the first week, and seldom lasted more than four or five days. This point alone should differentiate the disease from tuberculous meningitis, in which double vision seldom appears before the end of the second or the beginning of the third week. The origin of the double vision in encephalitis has not been made entirely clear. Any of the oculomotor nuclei may be involved, but I was unable definitely to determine which nerve was at fault in any except one case. In that there was distinct weakness of the right sixth nerve accompanying well-marked facial, that is, seventh nerve, palsy. In the other cases I thought there was weakness perhaps of all of the oculomotor nerves. I thought the patients were unable to move the eyeballs in any direction as freely as healthy persons are able to move them. When the eyes were directed either to the left or to the right, there was no fault in the action of the muscles except that the patients found it difficult to hold them in these positions. The tendency was for the eyes to rotate back to the middle line. Nystagmus was absent. The condition suggested not a true lesion of any particular nerve, but generalized weakness of all of the nerves. In other words, there was general ophthalmoparesis rather than ophthalmoplegia. Now, since this symptom in the main lessened or disappeared after the acute stage of the disease, it seems probable that it was due to some toxic effect or possibly to generalized pressure rather than to definite hemorrhagic or inflammatory lesions of the nuclei. The positions of the images were variously such as to suggest involvement of the third, fourth and sixth nerves in different cases; but my impression is strong that the patients did not automatically converge the eyes as in ordinary focusing, though they were able partially to overcome the difficulty by an effort of will.

Nerve Changes.—Other Cranial Nerves: No patient exhibited any symptoms of involvement of the first

nerve. I examined the fundi in six cases and could detect nothing wrong with the second nerve. Ophthalmoscopic examination was difficult because of small pupils, ptosis and delirium, and fundus changes may have escaped detection. The seventh nerve was involved, causing paralysis of the muscles of expression in one case, and in this case alone could I demonstrate distinct weakness of the sixth nerve and possibly also of the fourth. The eighth nerve escaped involvement unless such auditory hallucinations as were witnessed could be attributed to it. This is not likely, as most auditory hallucinations are cortical in origin.

Fifth Nerve: Among initial symptoms in three cases was distinct pain in one cheek bone and in front of the ear. This was a dull, heavy ache accompanied by tenderness on pressure. I am at a loss to know whether this pain was due, as seems possible, to congestion or to other disturbance around the gasserian ganglion or to a lesion of the bone itself. One patient suffered from quite severe pain in the postcervical region, the origin of which may have been either in the suboccipital nerves or periosteal, that is, in the occipital bone or possibly even in the vertebra, for he was tender in these regions. Two others complained of pain in the mastoid region unattended by any demonstrable lesion of the ear drum or auditory canal. The similarity in the disturbances of the cheek bone and back of the ear is evident, but leaves doubt as to whether they were due to subacute neuritis or to osteal changes. I incline to think that all of these pains were neuritic in origin; and if this be true, the fifth nerve is involved in a considerable proportion of all cases.

Ninth and Tenth Nerves: Perhaps this was the most interesting case of the series:

A woman, aged 30, became ill with delirium and double vision. When I saw her at the end of the first week, she was wakeful, sitting up in bed. Her temperature was 102 F. and pulse rate 160. Her respirations were shallow and irregular, and her skin extremely cyanotic. There was a suggestion of exophthalmos, and I at first thought she was suffering from toxic hyperthyroidism. Her physician, Dr. R. C. Yenney, who had known her for years disagreed with me. He also said that clinically he was able to exclude any pulmonary or cardiac lesion. While one was talking to her, her eyes would close sleepily for from ten to fifteen seconds, during which time one could almost see an increase in the cyanosis. Then she would waken with a sudden start, take a few breaths, answer questions, and repeat the performance. This continued for four or five days, at the end of which time she died, apparently as a result of paralysis of the cardiac and respiratory centers.

Twelfth Nerve: This case of twelfth nerve involvement was observed:

A woman, aged 37, walked into my office, sat down, and assumed the characteristic parkinsonian attitude and seemingly went to sleep. She had visited a number of physicians, one of whom had told her husband, so he said, that she was hysterical and should get up and go about her business. I sent her home and to bed in charge of a practical nurse. She remained quiet and passive except as she was troubled by muscular twitchings. At the end of two weeks, she suddenly lost the power to swallow, found difficulty in speaking, and her body gradually became slightly rigid. She was removed to a hospital and fed through a nasal tube for several days, a method which seems better than the passing of a tube through the mouth. She remains in this rigid condition and I fear will die. Notwithstanding all these symptoms her mind is quite clear, she recalls my visits, and if they are brief reports to her husband the next day, presenting a mental state which seems almost incredible when one considers the gravity of her physical condition. She has escaped few of the symptoms which characterize the disease save the early febrile stage, and even that may have been present unobserved.

Temperature Changes.—I did not see most of the patients until the end of the second week. Temperatures were reported between 101 and 103 F. in most of the cases during the first week. In the violently delirious case it rose to 104.6 only once. Two patients appeared to have been afebrile, and both of these pursued mild but characteristic courses to recovery. Fever subsided at the end of a week or ten days in most cases, though in two there was a recrudescence during the third week.

Rigidities.—In several patients the attending physician called attention to some stiffness of the neck which he thought suggested meningitis, but this rigidity was entirely different from the type found in meningitis. It was slight, easily overcome by the patient, and gave rise at most to a sense of discomfort. One patient was said by the nurse to be growing very stiff and rigid, but as a matter of fact there was no real rigidity. The muscles were more in a state of "waxy flexibility," the knee jerks were but slightly increased and ankle clonus was absent.

Skin Eruptions.—One patient during the third week of illness developed a discrete eruption consisting of about twenty pinhead sized petechiae distributed over his arms, shoulders, chest and forearms. These disappeared and were followed by two fresh crops after intervals of a week. This eruption may be of importance since it suggests the possibility that epidemic encephalitis is not a local cerebrospinal disorder but a general constitutional disease. It is not unreasonable to assume that the petechiae were due to the same agent that produced the pathologic changes in the nervous system.

Other Organs.—Involvement of viscera was conspicuous by its absence. The heart and lungs functioned normally except in two instances in which their nerve centers were involved. Only one patient had to be catheterized. There were no bedsores and no other complications.

Spinal Fluid.—Spinal puncture was done in six of the thirteen cases. In all, the fluid was germ free both in cover slip preparations and in culture. The cell count was 6, 26, 27, 46, 50 and 105, the last having occurred in the markedly delirious case described.

Leukocyte Counts.—These were made in only three of the twelve cases, and showed from fifteen to twenty thousand cells in each which corresponds in the main with the observations of others.

DIFFERENTIAL DIAGNOSIS

In typical cases the diagnosis should present no difficulty. The possibility of brain tumor and syphilis are reasonably well excluded by the relatively rapid onset and the presence of fever. Tuberculous meningitis was suggested in some of the cases, but tuberculous meningitis is commonly a childhood disease, and the paralytic phenomena are late and not early manifestations, which is true also of the delirium. Epidemic cerebrospinal fever was suggested in one case by a consultant, but I thought it could be eliminated on clinical grounds, and certainly it was promptly eliminated by spinal puncture. In the delirious cases without double vision, the onset was not unlike that

of other acute infectious diseases, and several days were required before a diagnosis could be made. Ptomain poisoning was a diagnosis made in three cases by the attending physician. All of these patients vomited for a day or two, and all attributed the vomiting to eating canned food. But as other members of the family had partaken of the same food and escaped, it seems to me that the diagnosis was not well founded. Throughout the literature many cases are being reported of cranial nerve palsies following influenza. I think it will be found that most of such cases are really cases of epidemic encephalitis.

PATHOLOGY

There has been only one necropsy among the four fatal cases, and I unfortunately did not see this. Such information as is obtainable from other writers indicates that the lesions are an increase in the cellular elements in the pia-arachnoid and cerebrospinal fluid, that throughout the brain, especially in the gray ganglions and at the base, there is a diffuse perivascular and round cell infiltration with minute hemorrhages not accompanied by necrosis. No organisms have been isolated.

PROGNOSIS AND COURSE OF THE DISEASE

Bassoe had five deaths among twelve cases. Sachs had three fatalities in one group of thirty cases, and five in a second group of fourteen cases. So far four of the thirteen patients whom I have seen have died, and one other is still in danger. Of those patients that appear to have recovered fully, one was in bed five weeks and two weeks later was still weak and tired, though able to be up about the house. Another, whose case had been diagnosed before I saw him as tuberculous meningitis, was able to come to my office in the sixth week. One whose case definitely developed in the second week of October is still bedfast and mentally confused. Of those cases that were fatal, one patient died during the second week, two patients during the third, and the remaining one in the fifth week.

TREATMENT

The treatment must of necessity be symptomatic. Every effort should be made to reduce bodily expenditures to the lowest degree. The patients have to be encouraged to eat, and should be given an abundance of fluid and semisolid food. We are feeding one patient with a nasal tube, finding this easier than to use the ordinary stomach tube. I have given some of my patients salol or hexamethylenamin; but such treatment is empiric.

Selling Building.

Luminous Marking of Ophthalmologic Instruments.—DR. ALFRED COWAN, Philadelphia, writes: The employment of self-luminous paint in place of ordinary paint for marking optical instruments used in the dark room is an improvement. The ordinary letterings on such instruments as electric ophthalmoscopes, the meridians on trial frames, optometers and phorometers, retinoscopic trial cases, etc., are extremely difficult, if not impossible, to see in the dark room. This is all made easy by the application of self-luminous instead of the usual paint. I have had my instruments so lettered, and find that all the old difficulty has been eliminated. It is not necessary to turn on the light to see the marks, and the axes of the trial frame or the numerals on the lenses are just as plain in the total darkness as in daylight. There seem to be several grades of this paint on the market, the better kind, of course, giving greater satisfaction.

THE SIGNIFICANCE OF SOME GENERAL BIOLOGIC PRINCIPLES IN PUBLIC HEALTH PROBLEMS*

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BALTIMORE

In the year 1917 there were expended in cities of the United States having 30,000 or more inhabitants, for the general purpose of safeguarding and promoting public health, something over 120 millions of dollars. This included about 78 millions for current expenses, and about 42 millions for permanent improvements, the latter expenditure being essentially in the nature of capital outlay. These expenditures represent the interest on roughly two and a half billions, which, even in these piping times, must be conceded to be a large sum of money. Such an annual outlay of 120 millions is not a large one when reckoned per capita of the population involved, amounting to rather less than $4 per person per year. In the aggregate, though, it is large enough fairly to raise the question as to whether those who pay the money are getting its worth in return. To propound such a question does not per se imply any carping spirit. It may be prompted simply by an honestly inquiring frame of mind, such as that which leads any sensible person to examine into his other and more apparently personal investments. Nor does an honest examination of the fundamentals of public health work imply in the slightest degree any criticism of those public servants who disburse these large sums of money. They are, by and large, sincere and earnest persons trying to do their best. The point which wants examination from time to time is that which relates to the underlying principles of public health work. Why is it done at all? Are all phases of it equally worth doing?

The motives which have led, by gradual but ever larger steps, to the expenditures of such vast sums of money to the end of improving the public health have been various, partly conscious and partly unconscious. Perhaps the chief motive finds its roots in the most fundamental of individual biologic instincts, that of the prolongation of the individual life to the greatest possible extent. With the development of general knowledge and intelligence about medical and hygienic matters, it became clear to any thinking person that two factors of high importance, to say the least, in the determination of his own individual expectation of life were: on the one hand, the kind of environment, particularly in respect of sanitation, in which he had to live; and on the other hand, the behavior, in respect chiefly of personal hygiene, of the people with whom he had to associate. The relative importance of these two factors in determining how long the average citizen was likely to live has progressively increased, at a rather alarmingly rapid rate, with the ever-increasing urbanization of the population. So long as John Doe and Richard Roe lived on widely separated farms, it mattered little to Richard if John's well came to harbor typhoid bacilli. But when both John and Richard got their drinking water from the same city reservoir, it was of vital concern to both if this supply became contaminated. Again, it was a matter of relative indifference to John if Richard had phthisis and freely exer-

* Papers from the Department of Biometry and Vital Statistics, School of Hygiene and Public Health, Johns Hopkins University, No. 9. Read before the American Society of Naturalists, Dec. 30, 1919, in a symposium on "Some Relations of Biology to Human Welfare."

cised the inalienable expectorationary rights of every freeborn citizen, so long as he could keep a mile or so away in the business of tilling his acres. But the case took on a very different aspect when both had to go to and from work in the same street car and sit side by side at the same factory bench. Then John wanted Richard coerced in respect of his personal habits. It is to attain such ends as these that we permit ourselves, if not with enthusiasm, at least with passable equanimity, to be taxed so that the great expenditures I have described may be made for public health purposes.

THE TEST OF SUCCESS OF PUBLIC HEALTH PROGRAMS

Man is easily seduced by *a priori* reasoning. Any program which can be shown to be logical, and which on a basis of logic alone seems calculated to yield desired results, will be embarked on by the vast majority of human beings with furious ardor. Only long afterward does it occur to any considerable number of people to try whether or not in fact, as distinct from logic, the program is yielding the results it was expected to. Few realize the literally awful dangers of logic. Every college student, at least, should be compelled as a prerequisite to graduation to read F. C. S. Schiller on the subject.

Now, the underlying ideas of almost any public health program are so seductively logical that it is only in the most recent times that any one has attempted in any systematic and strictly objective way to see what the program is in actual fact accomplishing. As so very often happens, it appears that there are some discrepancies between what logically ought to happen and what actually is taking place in public health work. In a broad way, the purpose of public health measures is to reduce the death rate by reducing the incidence of disease. In respect of only four causes of death can the program be regarded as having been conspicuously successful when carried out according to the *a priori* logic of the situation. These four are smallpox, typhoid fever, yellow fever, and malaria. Wherever there is a properly organized and vigorous public health service, these are now negligible causes of mortality. A fifth disease, diphtheria, might be thought worthy of inclusion, but from a public health standpoint the case is different. The great achievement with diphtheria has been in the direction of the cure, not the prevention of the disease. But what of other causes of death? In this country more people die of pulmonary tuberculosis than from any other single cause. The causal organism of this disease is perfectly well known. Yet what of its death rate? Pearson has for some years been studying pulmonary tuberculosis. In a paper recently published,[1] he brings up to date his results on the course of mortality from this disease in England during the last seventy years. Let me state his conclusions in his own words:

> From '65 to about '95 there was a continuous and rapid fall in the *corrected* phthisis death rate, and also in the percentage which the deaths from phthisis were of all deaths. I further indicated that from 1895 onwards there had been a check to this rapid fall and that the curves seemed to indicate that an actual rise in the phthisis death rate might in the near future be reasonably anticipated. This view was rendered still more probable when I plotted the returns for 1910 to 1914.

He now presents diagrams down to 1918, and reaches this cautious conclusion:

> On the whole, it is risky to form a very definite judgment; but having regard to the female phthisis death rate and to the percentage of the phthisis death rate on the general death rate, war difficulties do not seem to me sufficient to obscure the general trend of our graphs (as indicated before the war), namely, that somewhere about 1915 the fall in the phthisis rate which had been less rapid since 1895 would cease altogether and probably be followed by a *rise*. The next five years will show whether this be true or not. We should expect a fall in the phthisis death rate immediately, but on the average the value will remain higher than that of 1915.

Studies, as yet unpublished, which my colleague Dr. W. T. Howard has made of the phthisis death rate in Baltimore during the past ninety years, lead to substantially an identical conclusion.

I have recently[2] arranged the statistically recognized causes of death in an organologic classification. The results show that, comparing the two quinquennial periods, 1901 to 1905 and 1906 to 1910, the death rate from all causes assignable to the alimentary tract and associated organs concerned in metabolism fell only 1.8 per cent.

FUNDAMENTAL CAUSE OF HIGH DEATH RATES

Such results as these indicate that we are far from having attained that degree of knowledge of the causal factors in the incidence of morbidity and mortality which alone can make possible effective control. Careful study of the matter has convinced me that frank recognition and intensive investigation of the fundamental biologic factors in the problems of public health are essential to further real progress toward their solution. Time is lacking to go here into the reasons which have led to this conviction. What I shall try to do rather is to illustrate my meaning by a concrete example, not perhaps of great importance in itself, but significant as indicating the desirability of considering certain general biologic principles in dealing with public health problems.

The influenza epidemic of 1918 was unprecedented in its severity. Serious as had been earlier outbreaks of this disease, no one of them, so far as records exist, ever approached, not to say equaled, the 1918-1919 pandemic in destructiveness. If one, however, took the trouble to examine the statistics of mortality of last year's epidemic with some care, it became at once apparent that there existed an extraordinarily high degree of variation in respect of the magnitude of the death toll which different communities paid. Not only was there great variation in the rates of mortality incident to the epidemic, but also different communities exhibited marked diversities in respect of every other measurable characteristic of the epidemic, such as: (1) the general form of the mortality curve measuring the degree of explosiveness of the outbreak; (2) the maximum peak mortality rate; (3) the dates of the several mortality peaks; (4) the number of distinct mortality peaks; (5) the time elapsing between the several peaks of mortality, and, (6) the total duration of epidemic mortality.

This observed variation in the characteristics of the mortality induced by the epidemic in different localities seemed to me to constitute one of the most fundamental problems of the epidemic, and about a year ago

1. Pearson, Karl: The Check to the Fall in the Phthisis Death Rate Since the Discovery of the Tubercle Bacillus and the Adoption of Modern Treatment, Biometrika **12**: 374, 1918.

2. Pearl, Raymond: Certain Evolutionary Aspects of Human Mortality Rates, American Naturalist, to be published.

I undertook an intensive investigation of the facts in about forty large American cities for which data were available by weeks.[3] This study is still in progress, but certain definite results have been obtained[4] which I should like briefly to discuss here.

The problem presented itself in clean-cut form. Why did there exist such an extraordinary degree of variation between these cities in the force of the epidemic? The epidemic was universal in its distribution, certainly in large cities. Yet some showed only a relatively slight effect of its presence in their mortality curves, while others were visited with the most appalling destruction of life. An appropriate means of attacking the problem was ready at hand in the method of multiple correlation, a method which combines certain of the most essential epistemological advantages of the experimental method with the advantage of using historical statistical records.

The most obvious point to test first was whether the differences between the several cities in the explosiveness of outbreak of the epidemic (this being the first of its biometric characteristics studied) could be accounted for by the ordinary demographic and environmental differences existing between them. An analysis of the facts relative to geographic location, age constitution of the population, density of population, and rapidity of growth of population in recent years showed immediately and conclusively that these factors had absolutely nothing to do with the variation in the epidemic. Furthermore, unpublished observations on the restrictive and repressive measures used in various communities, such as prevention of public gatherings and compulsory wearing of masks, show that none of these measures had the slightest influence on the course or severity of the mortality. Plainly the search for factors causative of the variation in epidemic mortality must be directed to channels other than those.

In a further attack on the problem, attention was turned to the normal death rates of the several cities; that is, the death rates from various causes which prevailed in these cities before the outbreak of the epidemic. The results were startling. It was found, first of all, that there was a very high correlation between the explosiveness of the outbreak of epidemic mortality and the normal death rate from all causes in the same community. This correlation was made even higher by correcting for, by making constant the chief environmental and demographic differences in the several cities.

In the make-up of the death rate from "all causes," a very small number of diseases play a preponderant part. For example, phthisis and the pneumonias alone account for rather more than a quarter of all deaths organologically classified. Approximately ten causes of death are responsible for over 65 per cent. of the total mortality. These facts at once suggest that the next step in our analysis is to find what particular causes of death are responsible for bringing about the observed high correlation between the rate for all causes and the explosiveness of the epidemic. A somewhat systematic survey along these lines was made by the method of multiple correlation.

Without going into details here, the general outcome may be thus set forth: It was found that the explosiveness of outbreak of influenza epidemic mortality was correlated to high degree, after correction for various environmental and demographic differences, with the three great causes of death, namely, tuberculosis of the lungs, organic diseases of the heart, and acute nephritis and Bright's disease, which are primarily dependent on the functional breakdown of one or another of the three fundamental organ systems of the body, the lungs, the heart and the kidneys. Explosiveness of outbreak of the epidemic mortality was only slightly or not at all correlated with the normal death rate from infectious diseases, such as pneumonia, endemic influenza itself and typhoid fever. Further unpublished studies have shown that the total excess mortality from the epidemic, measuring the total number of people who died, is highly correlated with our index of explosiveness of outbreak.

From a broad biologic point of view, these results seem to me to have great significance. The investigations of Pearson, as well as unpublished studies of my own, now unfortunately destroyed but susceptible of repetition, have shown with the greatest force and clearness that the incidence of pulmonary tuberculosis is determined to a very large, if not a paramount, degree by constitutional or hereditary factors rather than by environmental factors. Organic diseases of the heart, and acute and chronic nephritis are recognized by the medical profession as primarily "organic" diseases, in which the constitutional factor is regarded of relatively great importance as compared with such diseases as pneumonia or typhoid fever. Our biometric analysis demonstrates that populations particularly subject to these constitutional diseases were the populations which were least able to withstand the onslaught of an especially virulent epidemic.

The conclusion stands near at hand, not proved but strongly indicated by the evidence now available, that the primary factor in causing the observed variation between different communities, in respect of reaction to the influenza epidemic, was the biologic constitution or organic fitness of the people making up the populations of these communities. Communities in some degree organically unsound, as indicated by relatively high normal death rates from phthisis, organic heart diseases, and nephritis, were less able to meet successfully the attack of a vicious epidemic invader than were those in which these biologic conditions did not exist.

BIOLOGIC NATURE OF PUBLIC HEALTH PROBLEMS

The whole investigation seems to me to illuminate and throw into strong relief the essential point at which this paper is aimed. The great outstanding problems of public health are really broad biologic problems, which can never be satisfactorily solved until they are looked at on this basis, nor until ascertained general biologic principles have due consideration in their study. In particular, it must be recognized that heredity imposes a hard and fast limitation on the effectiveness of palliative or control measures in public health. What is particularly needed, as an essential and integral part of the science of the etiology of disease and of public health doctrine, is a basic collection of organized and digested facts regarding the inheritance of the diatheses of various important diseases, notably phthisis, the pneumonias, and heart and kidney affections. Such a body of knowledge can be acquired in only one way: by the slow, laborious, painstaking

3. Weekly Health Index, Bureau of the Census.
4. Pearl, Raymond: Influenza Studies, I, On Certain General Statistical Aspects of the 1918 Epidemic in American Cities, Pub. Health Rep. **34**: 1743 (Aug. 8) 1919.

accumulation of data regarding family histories by specially trained field workers, and the searching analysis of such records by biologists and clinicians thoroughly trained in quantitative methods of research. Investigations of this sort on tuberculosis are being actively prosecuted in my department of the School of Hygiene and Public Health of Johns Hopkins University with the support of a grant made for the purpose by the National Tuberculosis Association. It is hoped that means will be found shortly for extending this type of work to other diseases.

Broadly speaking and with some notable exceptions, the medical man has no real understanding whatever of heredity in the sense that the modern geneticist knows it. He has an infinitely less firm grasp on the matter than his forebears a century ago had. They appreciated in some degree at least the importance of the constitutional factor in the causation of disease and acted in accordance with that appreciation. Then came the wonderful development of bacteriology, which had, among its many desirable results, the unfortunate one of swinging the pendulum of medical thought far off the sound general biologic pathway. Pearson has had the good sense and the moral courage to point out in characteristically vigorous terms the consequences of the domination of too narrowly bacteriologic doctrines, so far as one particular disease, pulmonary tuberculosis, is concerned.

Whatever of blame there may be in this departure from the path of sound scientific development in the broad sense attaches by no means solely to the medical profession. The biologist is as much or more at fault. Immured in the depths of his laboratory cultivating his particular narrow specialty, he has tended to behave as though biology as a science had no concern with the problems of life. He recognizes, if compelled by cross-examination to do so, that the pressing problems of mankind—social, political, medical, public health, and all the rest—are fundamentally biologic problems. But his behavior, except in the rarest instances, does not indicate that it has ever occurred to him that if the scientific method means anything at all, he of all men should not only be able, but should also regard it as his highest privilege and duty, to contribute from that portion of the storehouse of ascertained scientific fact and principle of which he is custodian and trustee to the sound solution of these problems. If I seem to speak warmly and feelingly on this subject, it is because nearly fifteen years' experience in two of the great applied biologic sciences has led to deep convictions in my mind on this subject. When I see millions of dollars literally thrown away each year on charitable and public health activities—which every trained geneticist, if he but used the analytic powers of his mind to the same good purpose that he does in his laboratory, could demonstrate to be futile, because of the limitations which known facts of heredity place on these well-meant endeavors—I am appalled and disheartened at the spectacle science permits to be made of itself.

In less pessimistic moments, however, one finds real encouragement in the fact that, as I believe, times are slowly but steadily changing for the better in this regard. More and more it is being recognized that an intelligent interest in human and vital problems need not necessarily and automatically subject an otherwise orthodox biologist to the scorn and contumely of his professional colleagues. And furthermore, all sorts of people, business men, labor leaders, administrators and politicians, are beginning to realize vaguely that science, and particularly biology, has discovered and knows some general principles which might, and probably practically would, be of use to them in trying to solve their problems. The biologist has made the mistake of not letting other people realize, and perhaps indeed of not himself clearly realizing, how much he is able to contribute of sound usefulness to the intellectual, social and moral welfare of mankind, as well as to his purely physical well-being. With the development of consciousness of profession, which is taking place ever more rapidly, it is confidently to be expected that his council will be more often asked, heard and heeded than has been the case in the past.

THE TEACHING OF THERAPEUTICS

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I am writing this paper because I am hopeful that it may direct attention to what is a crying fault in medical education today, namely, the neglect of teaching students how to treat patients for the alleviation or cure of disease. I am hopeful that some good may come of it because the Council on Pharmacy and Chemistry of the American Medical Association for years past has been endeavoring to inform physicians regarding the use of proprietary products and to persuade them to prescribe drugs, proprietary or not, intelligently.

The work that the Council has done is, of course, praiseworthy in intent, and is good as far as it goes in one line, to wit, to improve medical practice among graduates; but the prime difficulty lies in the teaching of practical therapeutics to the undergraduate and to the hospital intern. This embryo practitioner in almost every medical school has no training in pharmacy, little or no training in the use of the official names of drugs or of their doses, and no training whatever in the fact that doses of different sizes, although they be of one drug, may be useless, useful or harmful, or become so after some days. He, therefore, enters practice utterly at sea when he is called on to write a prescription.

I have known of eye drops to be ordered by the quart, oleoresins mixed with aqueous solutions, powerful alkaloids, such as strychnin, put in a mixture with potassium iodid, whereby nearly all the strychnin went into the last dose, and a host of other errors too numerous to mention. I have seen a thousandth of a grain of arsenous oxid given three times a day to an adult, and a grain of atropin put in each pill; and no druggist exists who, if diplomacy did not restrain him, could not humiliate almost every physician whose recipes come to his shop. Because the medical man knows nothing of the bulk of drugs or the most efficient vehicles, or excipients, he takes the easiest way out of his dilemma and orders products already prepared, which products are often the result of much experience and scientific pharmacy.

The remedy for all this is to have every student make in a pharmacy laboratory at least one representative of each class of preparations official in the Pharmacopeia and the National Formulary. I believe that

this is done in only one school of medicine in the United States.

The young graduate, having had no experience or teaching as to doses, naturally uses doses that some commercial laboratory names. He may have been taught "doses," but he has no idea that small doses of digitalis may be useful in one case, whereas almost toxic doses may be absolutely essential in another, and so loses the patient that needed the large dose. He uses the compound mixture of licorice as a vehicle in a case of profuse bronchorrhea or threatened pulmonary edema, not knowing, or forgetting, that its most active ingredient is antimony, which is absolutely contraindicated.

When he becomes an intern in a hospital, he learns one thing of great importance, namely, that the chiefs who prescribe little and "let the patient get well" often obtain the best results; or if he is on a surgical service, the entire drug therapy may be in his hands, and the chief often boasts that he "knows nothing about drugs and don't want to." On the medical side in large hospitals he will find a hospital formulary from which mixtures are made up by the gallon with all sorts of drugs, and contradictions, with widely varying doses of the ingredients; but there is a standard dose of the whole mess whether it be for a young girl of 16 weighing 100 pounds or an old rounder weighing 200 pounds. Not only this, but these mixtures go by names which often do not mention the most active ingredient or, worse still, go by numbers, so that the order on the treatment card reads: "No. 23, dessertspoonful t. i. d."

The fault does not stop with internship. Never having been taught practical therapeutics, the man steps into practice a fair mark for the loquacious traveling salesman who places him in the vocative by being familiar with what he ought to know. Some years ago, telling a distinguished ex-President of the Association that a patient was getting acetphenetidin, I found he did not know it was phenacetin. When he was told that the first term was the official one, he laughed and admitted that he had asked a student what he would use in a given case, and the reply was "phenol." The clinician "long" on pathology but "short" on therapeutics then informed the astonished youth that "phenol was no doubt very good, but carbolic acid was better."

PROPER METHOD OF TRAINING THE STUDENT

The remedy for the state of affairs just described is in teaching and experience when a student. This, in my experience, which is a fairly large one, is best accomplished by having the student, in his course, not only taught doses by rule of thumb, but also given the opportunity to prescribe for suppositive or actual cases, and to see the results of his order, both as to the prescription itself and as to its effect on the patient. Under the direction of an assistant professor the whole class may attend a therapeutic conference, or quiz, on the treatment of a given class of diseases, and during the conference several of the men who advise plans of treatment are called to blackboard to put in black and white what they have suggested. When they have finished, the instructor, who has continued his quiz in the meantime, criticizes the pharmacy, the doses, the form, the combinations, the therapeutics and the quantity in the whole prescription, as well as the Latin.

The number of occasions on which such criticisms lead to howls of delight at the discomfort of the man at the blackboard may be subversive of discipline, but all hands remember how John Jones wrote for nitrohydrochloric acid, iodid of potassium, tincture of gentian and tincture of iron in a quart of water, particularly if the mixture is prepared forthwith.

This large class teaching is driven home by a junior teacher taking the class in sections and having it spend one or two hours a week for several weeks writing prescriptions, for suppositive cases, which are then criticized, and the writer asked to give his reasons for using each remedy.

The regular medical ward classes should emphasize therapeutics; and, in addition, clinical, not laboratory, pharmacology should be taught. This is done by demonstrating a case of auricular fibrillation both at the bedside and with the electrocardiograph, and then giving full doses of digitalis, a second demonstration revealing the effects. So, too, the mode of action of atropin in partial or complete heart block is demonstrated, and the effects of nitrites in lowering pressure are taught by seeing a patient today with high pressure and again at the next visit with a reduced pressure. Any number of these therapeutic demonstrations can be made by the regular ward class teacher, and made still more useful if a demonstrator of clinical pharmacology who can use the polygraph and electrocardiograph is given proper hours. By this means the student is taught how drugs act and how various doses act, entirely apart from the didactic lectures on therapeutics or the general therapeutic clinics given by the head of the department, who deals of necessity with principles and practice.

FAULTS IN PRESENT METHODS

All this seems so obviously practical that the question arises, "Why is it not done?"

The answer is that there is not time. If there is not, why not? There is not time for two chief reasons. The first is that the student is taught too much of the special part of the specialties, many of which he will never attempt to practice; and unless he takes a postgraduate course after several years in general practice, he ought not to try to practice. At present the young graduate can talk learnedly of the difference between paralytic and concomitant squint or about the Bárány test, but is stumped when told to write a recipe for diarrhea.

The second reason is that the laboratory of pharmacology has drowned practical therapeutics, and has done it so effectively that in most schools literally no bedside therapeutics as a separate branch is taught, the original chair of therapeutics being filled by a laboratory pharmacologist who in some instances is not even a doctor of medicine, or if he has the degree of M.D. has never practiced a day in his life or even been an intern in a hospital. When he attempts to tell students bedside facts, it is as if he were an astronomer trying to teach a sailor how to navigate a ship without ever having been to sea. As he lacks bedside experience, he teaches, for example, that the best treatment of fever is a combination of the cold bath and coal tar antipyretics, when every one who practices knows that this is a great error. It is enough to bring the gray hairs of Dr. Simon Baruch, the great apostle of hydrotherapy, in sorrow to the grave, and if carried out will bring many patients there.

Valuable time which should be spent at the bedside learning how to use drugs is employed in having students carry out pharmacologic technic in a course of six or eight weeks or their equivalent. It is safe to say that not one man in a thousand who takes this course becomes a pharmacologist or learns to be an efficient technician. What the student needs is not to do the experiments himself but to see them done by a man so well trained that results are produced that make a demonstration that really demonstrates the fact to be remembered. I can see no more reason for making a group of students, designed to be practitioners, make bungling experiments with a Kronecker-Bowditch heart apparatus than I can for their performing amputations and visceral operations on dogs or cats with the idea that they will become good surgeons; indeed, there is less reason. One cannot make a man who has no music in his soul a violinist in a six weeks' course, and probably it is safe to say that the majority of excellent physicians have not the qualities which produce original contributions to medical knowledge.

NEED FOR THE TEACHING OF PRACTICAL THERAPEUTICS

To quote Sir George Makins,[1] in an address to the Medical Society of Manchester:

> A survey of these considerations should exert a definite influence upon the determination of the nature of the course of education best suited to the development of the doctor upon whose efficiency the happiness and health of the nation so largely depends. It is clear that for the great bulk of the profession a path must be found by which advances in science are utilized for the perfection of the art of medicine, but it cannot be possible to elevate every medical man to the position of an apostle of pure science . . .
>
> All men are not endowed with a truly scientific spirit; the power of evolving great principles is reserved to the few, and even the correct appreciation and application of those which have been laid down is not a faculty universally enjoyed. Again, the power of reasoning, the possession of initiative and invention, and the facility of developing technical skill, are qualities very unevenly distributed amongst the class of man who adopts medicine as his profession. The reasons which lead to his choice are by no means always governed by the degree of aptitude he possesses for the calling he decides to follow. To some the science of medicine appeals; some adopt medicine from the lofty motive of desiring to benefit mankind; some boys are born to succeed to a family practice; some become students of medicine because the choice coincides with that of a friend; in some business capacity is nil; in others it is the mainspring of the future career and dominates all other feelings or aspirations. Lastly, in not a few instances the initial choice has never been made the subject of serious thought or consideratiin.

My point is not that there should not be teachers of pharmacology. On the contrary, there should be, because it is only by the efforts of these men that the scientific or investigative side of therapeutics can be advanced and the errors of empiricism corrected. Their existence develops those who have the talent, initiative, the power of proper deduction and the love of investigation, and their methods of thought and mode of study are examples of the highest type of medical man; but in their enthusiasm they should not forget that 999 of their pupils want to know how to make the sick well and do not want to know by personal experiments on dogs the effect, for example, of cutting the animal's sympathetic on the action of cocain on the eye. If this is to be taught, let the pharmacologist make the experiment and demonstrate the result.

It may be said that I do not know whereof I speak; but I do, for I was once a pharmacologist myself. In the eighties I worked in laboratory pharmacology, and taught it too, as a somewhat long list of titles in the Index Catalogue will show. I am not an iconoclast, and no one rejoices more than I do that the only pharmacologic laboratory in the United States in 1886 has been followed by two score of such laboratories from which a wealth of wonderful work has originated; but it is *postgraduate work*. I am pleading that hours now used otherwise may be employed to teach not only the theory but also the practice of therapeutics. When this is done, the work of the Council on Pharmacy and Chemistry will be helped to its completion; for when the practitioner knows how to prescribe, he will not tolerate the commercial concern that poses as his teacher.

The closing paragraph of a recent editorial[2] has a bearing on this subject. I have substituted the word "pharmacologist" for "physiologist," and "pharmacology" for "physiology":

> It is quite possible that, as has been suggested, we are approaching the time when there will be two types of persons connected with each clinical department, namely, the clinical pharmacologist, whose chief work will be the intensive study of selected groups of cases and the instruction of students in the application of the principles of pharmacology to the elucidation of disease, and the clinician, whose chief function will be the care of the patient and the instruction of the student in the practical methods of diagnosis and treatment. Obviously, some arrangement already exists in some of our better schools. In institutions in which full time medicine has been introduced, there has been a distinct effort to appoint as heads of the clinical departments men of the investigative type. One question that Addis' discussion raises is whether in our enthusiasm for laboratory research we have not overlooked the importance of purely clinical investigation and of the type of physician that naturally tends toward this.

At present an attempt is made to make pharmacologists out of men who are going to practice medicine. A real pharmacologist is a highly educated man in physiology and chemistry, an investigator, a discoverer, and by rights a leader in the higher realms of therapeutics—one who should teach medical students how drugs can be studied and should be studied in the laboratory, and to determine fundamental facts about remedies. But to try to train the general run of students, who will never have a laboratory, to be pharmacologists without first teaching elementary practical therapeutics is somewhat like a great opera singer trying to make every one a great singer, or as if one should attempt to make his infant son sing before he tried to teach him to walk. The use of instruments of precision necessary for the study of drugs, if taught at all, should be at the bedside. I repeat what I said above: The lack of training as to what to do, what not to do, and when to do, as to remedies, is one of the weak spots in medicine today. I firmly believe that if the present generation of students is properly taught practical therapeutics, the chief labor of the Council on Pharmacy and Chemistry will be an accomplished fact, for the right way will be the easiest way. Let us first make good physicians and from these may be sifted out those who can and want to become laboratory pharmacologists.

1. Makins: Brit. M. J. 2: 590 (Nov. 8) 1919.

2. The Teaching of Clinical Medicine, editorial, J. A. M. A. 74: 35 (Jan. 3) 1920.

THE EFFECT OF FOOD RESTRICTION DURING WAR ON MORTALITY IN COPENHAGEN

M. HINDHEDE

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As I have already pointed out,[1] the blockade placed the people of Denmark in a very serious situation. We had been importing more than half of our bread cereals and a very considerable amount of corn and oil cakes for the use of domestic animals. While Denmark had only half as large a supply of rye and potatoes per capita as Germany, Denmark had proportionately twice as many domestic animals. The reason for this advantageous state of affairs was that the committee which had charge of proportioning the crops between man and animals (April 4, 1917) was converted to the newer ideas on nutrition.

1. No attention was paid to the protein minimum; it was held that this minimum was so low for man that it could not be reached, provided sufficient calories were furnished.[2]

2. While fat was regarded as a very valuable addition to the dietary, it was not considered as being necessary.[3]

3. Bran was considered to be a very valuable food, one which was well digested by man.[4]

As research had also shown that man can retain full vigor for a year or longer on a diet of potatoes and fat and for half a year or more on a diet of barley and fat,[5] reliance was placed on our potatoes and the large barley crop, which was given to man and not to the pigs, as heretofore, with the result that the pigs died of starvation, but the people received sufficient nutrition. Furthermore, we ate all our bran ourselves. We not only ate whole rye bread, but we mixed all our wheat bran with the rye flour and were able to bake good bread in this way. The Germans were unable to bake good rye bread. Their bread was too sour and too soggy. We were fortunate in having had more than a hundred years of experience in this direction. Our principal foods were bran bread, barley porridge, potatoes, greens, milk and some butter. Pork production was very low; hence the farmers ate all the pork they raised, and the people of the cities and towns got little or no pork. Beef was so costly that only the rich could afford to buy it in sufficient amount. It is evident, therefore, that most of the population was living on a milk and vegetable diet. As the potato and barley dishes were not "to Mr. Sorenson's liking" (Danish expression) to the same degree as meat, "he" ate less than before, and hence often lost weight.

The Danish food regulation was a most interesting problem for me. It was a low protein experiment on a large scale, about 3,000,000 subjects being available. What was the result? What was the effect on the health of the people? What was the death rate? At a later time I hope to be able to report on the death rate for both sexes, at different periods of life and from various diseases. In the accompanying table I give some data on the numbers of deaths per 10,000 population in Copenhagen, between the ages of 25 and 65 years.

Food restrictions were initiated in March, 1917, and by October, 1917, they had become very severe. Therefore, my calculations embrace a year beginning and ending October 1. I could not continue my studies after October, 1918, because of the epidemic of influenza then existing. The death rate, as is known, has decreased in the last decades, as the result of a fall in the rate for epidemic diseases and tuberculosis. The cause of these diseases being known, we are able to combat them successfully. The deaths for all other diseases have been practically the same since 1900 or even earlier than this. Placing the average for the period from 1900 to 1916 (109) at 100, the variation (ratio) is small, from 93 to 107, until food regulation began. During the year of severe regulation, it fell to 66, a decrease of 34 per cent. It would seem, then, that the principal cause of death lies in food and drink. It must be remembered in this connection that we took the cereals and potatoes from the distillers so that they could not make brandy, and one half of the cereals from the brewers, so that the beer output was reduced one half. Is it possible that this reduction in the output of alcoholic beverages is wholly responsible for the lower death rate? This question cannot be answered; but beyond a doubt while the lessened alcohol consumption is a great contributing factor to the lowered death rate, it is not the only one. The death rate for women has also been lowered 17 per cent. in the four year period 1910-1914. It is difficult to imagine that women consumed so much alcohol that this reduction in the death rate among women is to be charged solely to greater abstention from alcoholic beverages.

NUMBER OF DEATHS PER TEN THOUSAND MEN BETWEEN THE AGES 25 AND 65

Year	All Diseases	Epidemic Diseases and Tuberculosis	Other Diseases	Ratio
1900	152	46	106	97
1901	151	41	110	101
1902	131	30	109	100
1903	142	34	108	99
1904	137	36	101	93
1905	148	41	107	98
1906	144	33	111	102
1907	145	31	114	105
1908	152	35	117	107
1909	142	31	111	102
1910	135	26	109	100
1911	148	32	116	106
1912	138	30	108	99
1913	130	28	102	94
1914	133	27	106	97
1915	134	26	106	97
1916	145	35	110	101
1917	123	33	90	83
1917-1918*	99	27	72	66

* From Oct. 1, 1917, to Oct. 1, 1918.

The death rate for Denmark for the year October, 1917, to October, 1918, was 10.4 per thousand. It never had been lower than 12.5 (1913, 1914). A difference in the death rate of 2.1 per thousand for a population of 3,000,000 means a saving of 6,300 lives. Hence, the saving of lives in Denmark as a result of the allied blockade was considerable.

This result was not a surprising one to me. Since 1895, when I began my experiments with a low protein diet (mostly vegetarian), I have been convinced that better physical conditions resulted from this standard of living. It may be said that a vegetarian diet is a more healthful diet than the ordinary diet. As the

1. Hindhede, M.: Ugesk. f. Læger **81**: 183 (Jan. 30) 1919; abstr. J. A. M. A. **72**: 1198 (April 19) 1919.
2. Hindhede, M.: Skand. Arch. f. Physiol. **30**: 97, 1913; **31**: 259, 1914.
3. Hindhede, M.: Skand. Arch. f. Physiol. **30**: 78, 1913; published in German in 1919. Research was begun, Aug. 25, 1916. By April 4, 1917, after nine months' experience with a fat free diet, we were convinced that adults could live without fats, provided they were given greens.
4. Hindhede, M.: Skand. Arch. f. Physiol. **33**: 59, 1915.
5. Hindhede, M: Skand. Arch. f. Physiol. **35**: 294.

result of extensive studies in this field I am convinced that overnutrition, the result of palatable meat dishes, is one of the most common causes of disease.[6] I agree with McCollum[7] that:

> Lactovegetarianism should not be confused with strict vegetarianism. The former is, when the diet is properly planned, the most highly satisfactory plan which can be adopted in the nutrition of man . . . The only successful combination of natural foods or milled products for the nutrition of the animal are: (*a*) combinations of seeds or other milled products, tubers and roots, either singly or collectively, taken with sufficient amounts of the leaves of plants; (*b*) combinations of the foodstuffs enumerated under (*a*), taken along with a sufficient amount of milk to make good their deficiencies.

I wish to call attention to the unusual amount of bran consumed by the people of Denmark during the period of food restriction. In other countries, for example, Germany, Holland and Norway, the question was discussed whether grain should be milled to yield 70, 80, 90 or 94 per cent. of bolted flour. We not only milled our rye to 100 per cent. but, profiting by previously made experiments, we added all our wheat bran to the whole rye bread; and as we added also 24 per cent. of barley meal (milled to 95 per cent., only the coarsest shells being removed) we had more than twice the amount of bread we would have had if we had milled only to 70 per cent. As the difference in digestibility was only 9 per cent. (94—85) we got about twice the amount of digestible bread. And, be it emphasized, we could bake good bread with this mixture. People entered no complaints; there were no digestive troubles, but we are accustomed to the use of whole bread and we know how to make such bread of good quality. If further proof were needed, this war experiment on such a large scale has demonstrated that bran is excellent food.

These findings agree with those of Osborne and Mendel.[8] These investigators found that bran is a very good food for rats, and that mixed with white flour it can take the place of meat and eggs. Their results lead me to conclude—if I may be permitted to apply results obtained on rats to human beings—that: As bran can replace meat and eggs, man should eat whole bread and not so much of the more costly foods. Mendel concludes contrariwise: As people eat enough of meat and eggs, "no practical advantage on this score can be expected by converting the entire grain into flour." In my opinion, Mendel not only overlooks the economical question, but also that there are good reasons for believing that a diet composed mostly of meat, eggs and white bread—a common diet of the well-to-do—is far from being a healthful diet. Even in the case of rats, a meat diet seems eventually to be harmful. Although rats can thrive quite well on a meat diet—which man cannot do—the young of meat fed rats seldom survive.[9] The fact of the matter is that it is claimed that rats, like human beings, will not choose an exclusive meat diet from natural instinct. That statement does not, however, apply to the rat. Watson says, on the basis of his numerous experiments on rat feeding: "I have never seen a young rat which would look at porridge or milk if meat was available." I have seen "human" rats who would not eat porridge when beefsteak was available! And we know that beef, in large amount, is not good food for either man or rat.

While not all readers will agree with what I have said, no one can dispute the fact that the people of Denmark have no cause to regret that during the war their diet consisted mostly of milk, vegetables and bran. If Central Europe had adopted a similar diet, I doubt that any one would have starved. It seems to me, however, that the German scientists, as represented by Rubner, have not learned anything from the war. Rubner[10] writes about the "necessity of bringing the supply of live stock up to the prewar basis. . . . From what I have stated, it follows that meat products must again form an adequate proportion of our diet."[11] Rubner wants an abundance of meat in order that the people can be "aufgefüttert." I do not agree with him. The people must first have bread, potatoes and cabbage in sufficient quantity, and then some milk. Meat is the last requirement to be met. If the people must wait until pigs and cattle have sufficient food, they will die of starvation one year before they can get an abundance of meat.

Laboratory for Nutrition Research, Copenhagen V.

6. Hindhede, M.: Moderne Ernährung, Berlin, W. Vobach, 1915; 12. Beretning fra Hindhedes Kontor for Ernæringsundersøgelser, Copenhagen, Jakob Lind, 1919.
7. McCollum: The Newer Knowledge of Nutrition, pp. 52, 81.
8. Osborne, O. T., and Mendel, L. B.: J. Biol. Chem. **37**: 557 (April) 1919.
9. Watson, Chalmer: The Influence of Diet on the Structure of the Tissues, Edinburgh, 1910.
10. Rubner: Schädigung der deutschen Volkskraft durch die feindliche Blockade, Denkschrift des Reichsgesundheitsamtes, Berlin, 1919.
11. "Nothwendigkeit der Wiederherstellung des Viehbestandes. . . . Aus dem gesagten folgt, dass die Fleischnährung wieder den entsprechenden Anteil an der Ernährung nehmen muss."

LOCAL ANESTHESIA IN NEUROSURGERY

WITH SPECIAL REFERENCE TO ITS VALUE IN EVULSION OF THE SENSORY ROOT OF THE GASSERIAN GANGLION

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ATLANTA, GA.

Those of us who were so fortunate as to participate in the medical and surgical work in France during the recent war are often asked the question, "To what extent have the principles and practices evolved by military surgery benefited civil medicine and surgery?"

Without attempting to answer such a broad question, I wish to discuss briefly the use of local anesthesia in neurosurgery, with special reference to its application in the operative relief of trifacial neuralgia, believing that the routine use of local anesthesia in the war wounds of the central and peripheral nervous systems is responsible for its wider application in neurosurgical problems of civil life.

Local anesthesia has been used in certain selected neurosurgical operations for many years, and is therefore in no sense a method which originated during the recent war. For example, Thomas and Cushing[1] reported the removal of a brain cyst under cocain anesthesia after four previous operations under general anesthesia had been abandoned on account of excessive hemorrhage due, presumably, to the fulness of the vessels, produced by the anesthesia. They say:

> Although the undertaking was premeditated, in consequence of our previous unfortunate experience in administering general narcosis to this patient, we must confess to surprise at its successful accomplishment. Contrary to all expectations, the dura proved to be insensitive to such manipulations as were

1. Thomas, H. M., and Cushing, Harvey: Removal of a Subcortical Cystic Tumor at a Second Stage Operation Without Anesthesia, J. A. M. A. **50**: 847 (March 14) 1908.

necessary to open it freely. Only when it was put under tension or displacement was any discomfort occasioned, otherwise it seemed to be absolutely free from sensitivity.

The more general application, however, in the use of local anesthesia in operations for cranial and brain injuries as the result of war wounds was urged by Colonel Gray of the British army in 1917. Also in developing the technic which was responsible for the reduction of the operative mortality from 60 or 65 per cent. to less than 30 per cent. in head injuries with dural penetration, Cushing adopted the routine use of local anesthesia as one of the important steps in the operation.

In a very extensive experience as chief of a neurosurgical team working in the forward area during the St. Mihiel and Argonne offensives, I became thoroughly converted to the use of local anesthesia in brain and spinal cord operations. The advantages were so numerous and the disadvantages so few that I could see no reason why the practice should not be adopted more generally in the operations for neurosurgical conditions as encountered in civil practice.

Since returning to civil practice, therefore, I have used local anesthesia as a routine procedure in all neurosurgical operations, excepting those on children and on extremely nervous adults whose cooperation could not be relied on.

As an illustration of the variety of these operations, this type of anesthesia has been used successfully in subtemporal decompressions, cerebellar decompressions, drainage of brain abscess, elevation of depressed skull fractures, explorations for tumors and cysts through extensive bone-flap operations, laminectomies for spinal cord tumors, peripheral nerve operations, and operations on the gasserian ganglion for trifacial neuralgia.

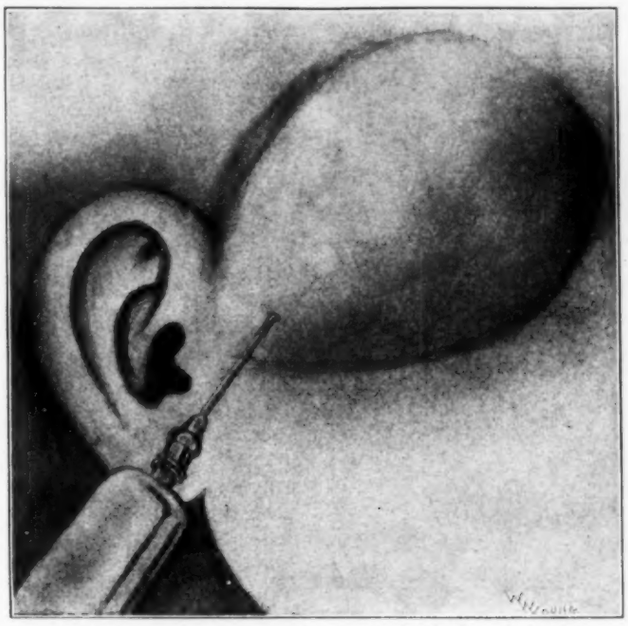

Fig. 1.—Massive infiltration of scalp and subcutaneous tissues.

With the exception of those cases in which there is evidence of greatly increased intracranial pressure, the routine administration of one-third grain of morphin hypodermically thirty minutes before the operation has been practiced. When the brain is under greatly increased pressure I have felt that it might perhaps be unwise to administer morphin on account of the fact that the medullary centers may already be more or less embarrassed by the increased pressure. Such patients have therefore been given sodium bromid, 20 grains, four times daily for several days preceding the operation. In this connection I was interested to learn in a recent conversation with Sachs of St. Louis that he gives as a routine a preliminary injection of morphin, one-eighth grain, in all brain operations, regardless of the presence of increased intracranial tension, and sees no reason why this practice should be dangerous. In handling brain injuries in France we gave morphin, one-half grain, thirty minutes before operation, and experienced no ill effects from its use. In these cases, however, we seldom had the problem of increased pressure to deal with, as contused brain had already escaped through the open dura, thereby preventing to a certain degree the same pressure effect on the brain mass that occurs in traumatic cases with skull and dura intact.

The type of local anesthesia used is a massive infiltration with 0.5 per cent. procain, to each ounce of which have been added 15 minims of epinephrin (adrenalin) chlorid solution (1:1,000). This solution is best made up immediately before each operation. For the sake of convenience the powdered procain may be kept in capsules, each capsule containing 5 grains of the drug. The contents of one such capsule added to 2 ounces of boiling water, plus the addition of 30 minims of epinephrin solution, will give a sterile 0.5 per cent. procain-epinephrin solution of sufficient quantity for the average operation. In extensive operations, however, I have used as much as 6 ounces of such a solution and have never noticed any toxic effects from the drug. Formerly I used a 1 per cent. solution, but later experience has convinced me that the 0.5 per cent. strength is equally as satisfactory. The infiltration is made by a long needle and Luer syringe of at least 20 c.c. capacity, the point of the needle extending just through the scalp above the galea. As the infiltration progresses, the scalp is raised by the underlying fluid and the needle can be further inserted during the injection along the line of the proposed incision. The scalp proper cannot be successfully injected. The infiltration is now extended under the galea and into the muscles in those regions in which muscle is present. If sufficient solution is used and at least fifteen minutes allowed to elapse before the incision is made, the patient does not complain of any pain whatsoever. As a rule no further use of the solution is necessary, provided the initial infiltration has been massive enough. The skull can be entered painlessly, and for ordinary incisions and manipulations the dura seems to be absolutely free from sensitivity. It is well known that the brain itself is devoid of painful sensations; after a painless opening has once been made, therefore, all necessary intracranial manipulations can be done without conscious perception on the part of the patient.

To one who has experienced the manifold trials that attend the average extensive operation of a neurosurgical nature under general anesthesia, and then has noted the conspicuous absence of such trials in patients anesthetized locally, the advantages of the latter method are most marked. In spite of the numerous methods devised for the control of scalp hemorrhage, this is almost always a most troublesome and dangerous factor in brain operations under general anesthesia.

The entire cranial circulation is greatly congested, which gives trouble not only in the scalp but also within the skull, where frequently there will be a persistent oozing from even the smallest vessels, the eventual control of which requires the most painstaking and time-consuming attention. Even after the control of such oozing has been effected, there is great danger of later oozing, with the formation of postoperative hematoma. With the use of local anesthesia, the epinephrin proves an effective hemostatic, so that very few clamps are required. Furthermore, instead of the tremendous congestion giving rise to troublesome hemorrhage most difficult to control, the brain circulation is normal, and such bleeding as might occur is easily and quickly controlled with little or no tendency to postoperative oozing.

The average extensive brain operation under general anesthesia is usually productive of more or less shock. The prolonged anesthesia and the loss of blood are perhaps the greatest factors in producing shock. The anesthesia is usually prolonged because of the great trouble in controlling the hemorrhage. Eliminate

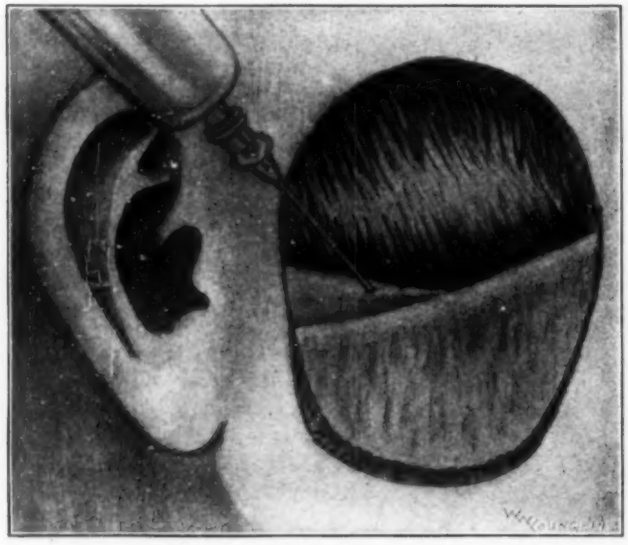

Fig. 2.—Infiltration of the periosteum of the zygoma before resection.

the one, and you thereby eliminate the other. Under local anesthesia these operations are much more quickly done, and the patient rarely ever shows evidence of shock. I have turned down an extensive bone flap and had my patient leave the table with the same pulse and blood pressure as before the operation. I have never had a similar experience with general anesthesia.

There are a certain number of patients (when first seen by the neurosurgeon) whose intracranial pressure is so great as to allow of a very narrow margin of safety in the performance of a simple subtemporal decompression. This margin is undoubtedly made narrower by a general anesthetic. Local anesthesia in such cases permits the safe performance of palliative operations.

As already mentioned, local anesthesia is not applicable to children, or to adults who are very nervous or who are in a condition of noisy delirium or turbulent restlessness. In such patients, any operation under local anesthesia is inadvisable.

Although the dura covering the vertex and lateral surfaces of the brain is insensitive to incisions and careful manipulation, those portions of dura at the base of the brain where there is considerable attachment to the bone are more likely to be sensitive. For this reason, during operative procedures in these regions under local anesthesia, infiltration of the dura is sometimes necessary in order to manipulate it without producing painful sensations.

LOCAL ANESTHESIA IN TRIFACIAL NEURALGIA

Perhaps the most satisfactory operation in neurosurgery is that for the permanent cure of trifacial neuralgia. In the hands of those who are thoroughly trained in neurosurgical technic, the operative mortality in this class of patients should be nil. It is, however, one of the most difficult operations in surgery, and should not, in my opinion, be attempted by the average general surgeon.

Without discussing the many interesting features of trifacial neuralgia, I wish simply to mention the use of local anesthesia in the radical operation for this condition as an illustration of the value of the method in neurosurgical procedures. I have had the opportunity during the past few months of demonstrating the advantages of evulsing the sensory root of the gasserian ganglion under procain anesthesia over similar efforts on etherized patients, and therefore feel justified in being somewhat enthusiastic on the subject.

After a preliminary hypodermic injection of one-third grain of morphin (one-half hour before operation), a massive infiltration of 0.5 per cent. procain-epinephrin solution (according to the method mentioned above) is made in the region of the proposed incision. If the approach of Cushing is selected, the infiltration should begin just over the temporal root of the zygoma and extend as high as the level of the upper border of the pinna, and forward to the posterior border of the frontal process of the malar bone. After thorough infiltration of the skin, the needle should be inserted into and through the underlying temporal muscle so that the solution may be brought into contact with the periosteum of the skull. The skin flap is now reflected downward until the periosteum of the zygoma is exposed. In order to insure a painless resection of the latter, a thorough infiltration of the periosteum can now be done before the subperiosteal resection of the zygoma is attempted. If the fascia and muscle have been sufficiently infiltrated, the incision through these structures and the removal of sufficient underlying skull can be accomplished without pain.

It has been my experience that the dura can be gently retracted and the middle meningeal artery exposed and clipped as it emerges from the foramen spinosum without discomfort. As the mandibular branch of the ganglion is exposed, however, the patient will complain of pain. This should be anticipated by asking the patient to mention the expected painful sensation as soon as it is noticed, with the assurance that after this no further pain will be experienced. As soon as the foramen ovale is reached, the operator has an excellent guide and should then infiltrate the ganglion by inserting the needle into the third branch, injecting the nerve, and further inserting the needle along the nerve directly into the ganglion. One c.c. of solution is usually sufficient completely to anesthetize the ganglion.

From now on the operation can proceed without further pain, the third and second branches and then the ganglion itself exposed, and the sensory root evulsed without any discomfort whatsoever to the patient.

Although I prefer the Cushing method of approach, and have always adopted it, I see no reason why the excellent operation of Frazier could not be done equally as satisfactorily under local anesthesia. The infiltration, should the Frazier approach be adopted, must

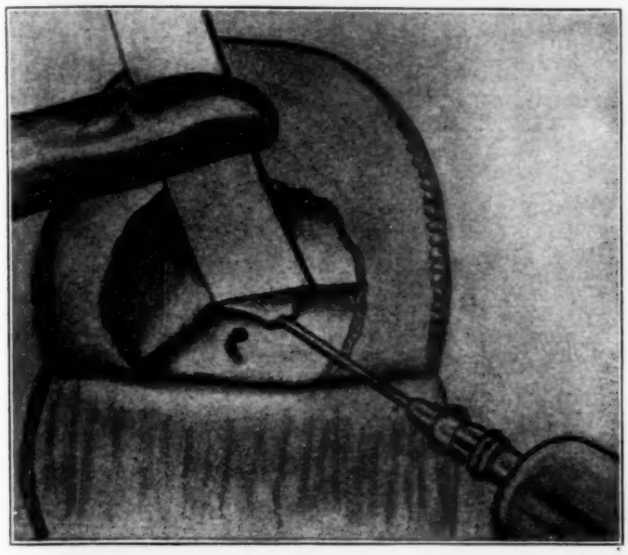

Fig. 3.—Infiltration of the gasserian ganglion, the third branch being used as a guide after exposure of the edge of the foramen ovale.

extend higher, and it should not be necessary to infiltrate the periosteum of the zygoma, as this bone is not resected.

There are two very distinct advantages in the use of local instead of general anesthesia in the performance of this operation:

The first is the marked difference in hemorrhage. The constant presence of venous bleeding in the average operation of this nature requires the repeated insertion and withdrawal of small cotton pledgets, thereby permitting the operator short intervals in which to expose the ganglion and thus necessarily prolonging the time of the operation. This bleeding, provided the middle meningeal artery has been satisfactorily dealt with, is entirely venous. (I have never understood the logic of doing a preliminary ligation of the external carotid artery in these operations—a method practiced by many surgeons, it seems.) There is no doubt that during a general anesthesia, there is a definite venous and capillary engorgement in the brain and meninges which gives rise to the above-mentioned troublesome and time-consuming hemorrhage. With the patient anesthetized locally there is a marked absence of such oozing, and as a consequence the operation proceeds without interruption, the exposed field is much clearer, there is less mopping, and the average time consumed considerably less than when the patient is etherized.

The second distinct advantage is the absence of the relatively tense dura. This is present when the patient is under the influence of a general anesthetic and interferes with the free exposure by dural retraction until cerebrospinal fluid is removed, either by nicking the dura as practiced by Frazier, or by doing a lumbar puncture as practiced by Sachs. Under a local anesthetic, the dural retraction is easy and safe without this preliminary removal of spinal fluid, which therefore does not escape until the sensory root is exposed and evulsed.

CONCLUSION

I cannot but feel that the routine use of local anesthesia in this as well as in other operations of a neurosurgical nature allows a broader margin of safety than that offered by the use of general anesthesia. If this is true, our patients should be given the benefit of the difference. My own experience in this direction has been so uniformly satisfactory that I do not hesitate in recommending the more extensive use of local anesthesia in this special class of surgical operations.

THE SURGICAL TREATMENT OF GUMMATOUS OSTEITIS OF THE SKULL*

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Gummatous osteitis occurs in late syphilis and involves the outer table of the skull alone, or the outer and inner tables with the dura and the brain. While the gumma may be an isolated condition, it is more likely to be associated with numerous lesions on the skull. In making an examination of these lesions, it will be found that there is a destruction of the superficial tissues with necrosis of the bone, which gives the peculiar moth-eaten appearance characteristic of this disease and affords a means of diagnosis, by roentgen ray, before the skin has broken down.

Aside from the specific treatment of syphilis, it is necessary that certain surgical measures shall be

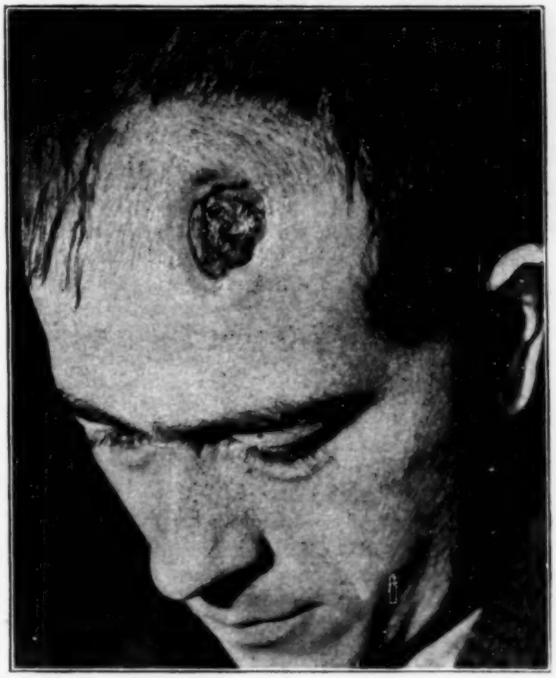


Fig. 1 (A 211775).—Necrotic gummatous ulcer of the frontal bone, which healed in six months after treatment had been administered. At first the necrotic bone had been perforated with a gimlet, with only slight results; later the skin edges were freshened and the entire sequestrum removed.

applied to the necrotic ulcers of the skull, namely, draining the suppuration, removing the sequestrum,

* From the Surgical Section on Neurology, Mayo Clinic.
* Read before the Southern Minnesota Medical Association, Mankato, Dec. 2, 1919.

or dead bone, and stimulating granulation and epidermization over the denuded areas. Several cases have been observed at the Mayo Clinic in which the skin has been elevated over a fluctuating mass varying in size from 0.5 to 4 cm. If the fluctuating area is opened,

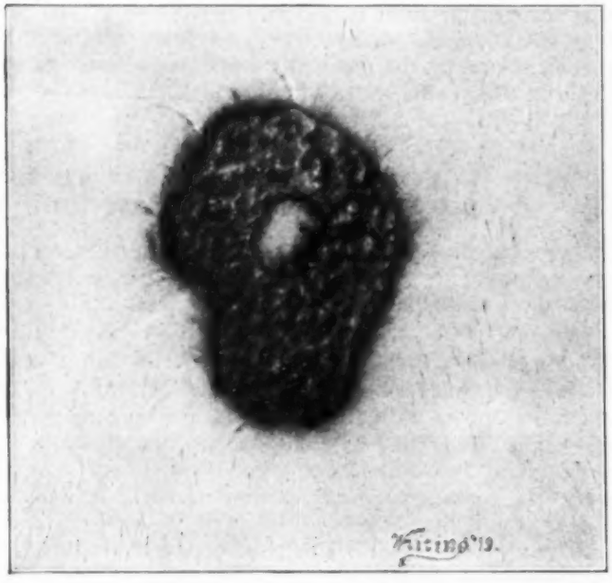


Fig. 2 (A 248101).—Necrotic ulcer of the frontal bone due to gummatous osteitis.

a sequestrum and pus are usually found, surrounded by roughened edges of bone. In the older lesions these fluctuating masses will open spontaneously, and pour out thick, yellowish pus, which is caused by necrosis of the superficial tissues and destruction of bone. The necrotic bone at first is very white and does not bleed when touched; but on exposure to air, it becomes discolored, and a foul-smelling necrotic ulcer of the skull follows. The ulcers do not respond to specific treatment or local applications, unless the sequestrum has been removed. The necrotic areas may persist for years until sufficient necrosis takes place to loosen the sequestrum, when granulation follows (Fig. 1).

In reviewing the literature, I found very little relative to the local treatment of this condition. Dr. C. H. Mayo,[1] in 1914, discussed the treatment of dry, exposed bone by gimlet perforation in an effort to stimulate granulation. He stated that when granulation begins to take place through these small openings, flakes of bone loosen up and come away, and in time the surface is one granulating area. Dr. Lydston,[2] in 1915, described a case of syphilis of the cranium and spine, in which he explored one of the gummas of the skull, removing the necrotic tissue with a ronguer until living bone was reached.

The point under consideration is that in cases in which dry bone, or necrotic, suppurative bone is exposed, as in gummatous osteitis, granulation does not take place until the sequestrum has been completely removed, regardless of the depth of the sequestrum. A child on whom I operated for brain abscess developed a wound infection, resulting in a retraction of the skin edges, and exposure of the parietal bone over an area of about 9 by 6 cm. Various dressings had been applied with little success, when accidentally the child bumped her head, loosening the outer table of the exposed bone, which we then proceeded to lift off, thereby exposing the bleeding surface between the two tables of the skull. As soon as this was done, granulation immediately followed and the wound healed without skin graftings (Figs. 2 and 3).

In four cases of gummatous osteitis, I have since applied the same principle, that is, elevating and freshening the skin margins and removing all the necrotic bone with a chisel to a depth at which bleeding is profuse. As a rule, if the necrotic bone is removed down to the diploe, no further procedure is required. When the inner table is involved, this also should be removed. If all necrotic bone is not removed at the primary operation, it is advisable to have the patient return promptly for further operative treatment. After the removal of the sequestrum, wet dressings saturated either in a boric acid solution or in physiologic sodium chlorid solution should be applied, and if epidermization is slow, skin-grafting may be resorted to. The postoperative course of four patients operated on in the Mayo Clinic for gummatous osteitis has been entirely satisfactory.

In the first case, the patient presented a history of gummatous osteitis of eighteen months' duration. At a primary operation, numerous gimlet holes were made through the necrotic bone, producing very small buds of granulation; later, the necrotic bone was removed by the use of a chisel; this was followed by a subsequent operative procedure, when small areas of dead bone that were missed at the primary operation were removed. The patient experienced no postoperative complications, and the wound healed completely in six months.

In the second case, multiple gummas of the skull were present; the largest measured 9 by 6 cm. These were treated by removing the sequestrum and freshening the skin edges;

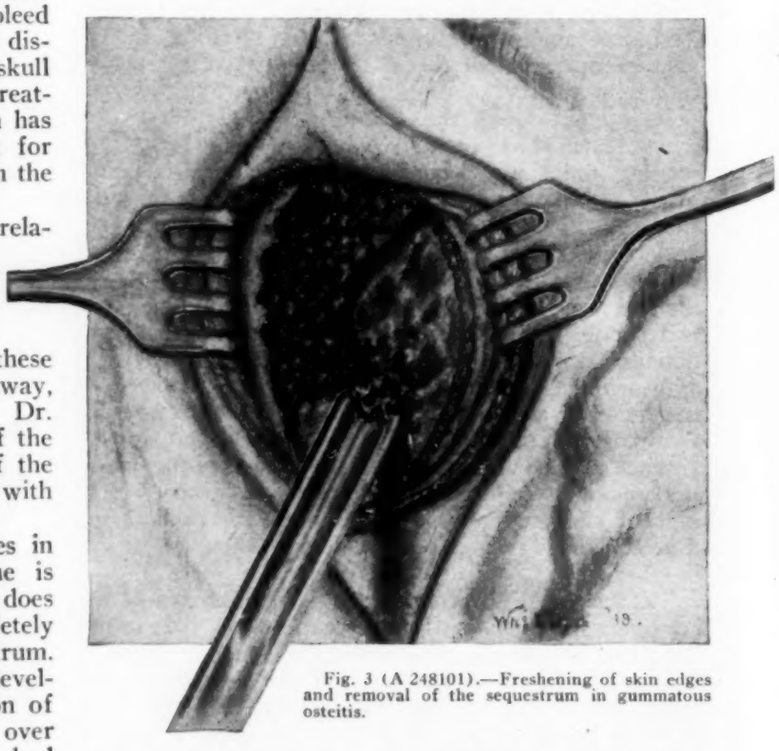


Fig. 3 (A 248101).—Freshening of skin edges and removal of the sequestrum in gummatous osteitis.

the smaller gummas were left undisturbed. This patient's convalescence was entirely uneventful and the wound healed in three months (Fig. 4).

In the third case, a single necrotic area of the frontal bone had been present for three years. This was treated by removal

1. Mayo, C. H.: Preparation of Dry Bony Areas for Skin-Grafting, Ann. Surg. **60**: 371, 1914.
2. Lydston, G. F.: A Unique Case of Syphilis of the Cranium and Spine, with Remarks on Syphilitic Bone Dystrophy, Med. Rec. **87**: 43, 1915.

of the sequestrum; at the time of the patient's dismissal the wound was in good condition and covered with granulating tissue.

In the fourth case, the patient presented a large fluctuating mass which involved the right half of the frontal bone and

Fig. 4 (A 229080).—A healed gummatous area, 9 by 6 cm., of the vertex, after the removal of the necrotic sequestrum.

was associated with an involvement of the septum. The mass was drained and the necrotic bone removed.

Local surgical treatment of gummatous osteitis depends on the size of the gumma and on whether or not the skin has been broken. In cases of very small gummas, it is unwise to open the fluctuating areas; if the gumma is 1 cm. in diameter or larger, it should be opened, the sequestrum removed, and the roughened edges curetted. In the larger exposed necrotic suppurating areas all necrotic bone should be removed, the skin edges freshened, and wet dressings applied. Specific treatment should be given in conjunction with local treatment.

The principle applied to gummatous osteitis of the skull with reference to removal of the sequestrum, or dead bone, may also be applied to areas of exposed bone in nonsyphilitic cases, since granulation will at all times be hastened by removal of the outer table of the skull.

Wood Alcohol.—The wood alcohol used in the United States is obtained chiefly from the destructive distillation of wood—hard wood, birch, beech, maple, oak, elm and alder being those most frequently used. The chief uses to which it is put are for the denaturing of grain alcohol; for various purposes in lines of common manufacture (especially as a solvent in the preparation of shellac, varnish, dyes, etc.) as an ingredient in medical and pharmaceutical preparations; in the chemical industries and as a fuel and illuminant. Only within recent years has wood alcohol become so dangerous to life and sight. Formerly it was a dark, bad smelling, bad tasting fluid which no one was tempted to drink. Later, a process was developed by which this color, smell and taste are removed. Wood alcohol, when purified in this way, looks, smells and tastes like grain alcohol, and may thus be easily substituted for it by unscrupulous persons.—*Illinois Health News,* October, 1919.

A CASE OF SYPHILIS OF THE ANTERIOR HORNS

GEORGE M. GOODWIN, M.D.
Assistant Attending Physician, Medical Division B, Saint Luke's Hospital
NEW YORK

History.—J. R., a Spaniard, aged 25, a clerk by occupation, admitted to the outpatient department, Oct. 15, 1919, gave a history of his present illness of six months' duration. The chief complaint was weakness; he complained especially of weakness of the legs. When he awoke in the morning, walking was difficult and his legs felt stiff. The stiffness diminished during the day with exercise of the muscles. Continued walking tired him a great deal, and when tired he was likely to stumble. He had no pain and he was not conscious of any sensory disturbance or mental trouble. There was no bladder or rectal difficulty; and he had no trouble in swallowing. He had lost 20 pounds in the past two years, but for the past six months his weight had been stationary.

He admitted having had gonorrhea, but denied symptoms of syphilis. Just before the onset of the present illness, he had had an abscess of the right forearm. This was incised and took six months to heal. The past history was otherwise negative. As far as he knew, no other member of his family had suffered from any similar trouble.

Physical Examination.—The patient was thin, and stood with the head bowed slightly forward. The clavicles were prominent, the scapulas were of the winged type. There had apparently been contractures of the muscles of the feet with resultant pes equinus. This interfered with the patient's gait. The general musculature was poorly developed, and there was distinct atrophy of the leg muscles. The posterior aspects of the calves, especially of the left, had become flat. There was a general fibrillary contraction of the muscles. This was most marked in the muscles of the shoulder girdle, but was present in nearly all the muscles after continued voluntary contraction and subsequent fatigue. In this way it could be induced, particularly in the biceps, triceps, glutei, and hamstring muscles. These contractions were visible on inspection, but could be demonstrated better by stethoscopic auscultation over the fibrillating muscles. Over the smaller muscles the sounds resembled those of the fetal heart.

The superficial reflexes were present: the knee, elbow and wrist jerks were absent. There was no ankle clonus, or Babinski reflex. There was no pupillary light reaction: the eye grounds were negative. Touch and temperature discrimination was unimpaired.

Results of the examination of the heart, lungs and abdomen were negative. The blood pressure was 120 and 80.

DIAGNOSIS

This case presented the symptoms of muscular atrophy and muscular fibrillation. Muscular fibrillations occur in conditions in which there is a degeneration of the cells of the anterior horns of which the motor nerves are the axons. The diseases with which it is associated are: chronic bulbar paralysis, syringomyelia, amyotrophic lateral sclerosis, and progressive spinal or neuritic muscular atrophy.

The absence of bulbar symptoms and the retention of sensory discrimination ruled out the first two of these diseases. While cases are described of amyotrophic lateral sclerosis in which exaggerated reflexes and spasticity as the result of disease of the lateral columns occurred late or not at all, the condition is probably very unusual.

The picture here seemed to correspond most accurately to that of progressive muscular atrophy, although the predominance of the atrophy in the leg muscles

suggested the Charcot-Marie-Tooth type of progressive neural atrophy.

The results of the laboratory investigations in this case were: The blood Wassermann reaction was +. The spinal fluid showed a ++++ Wassermann reaction, a cell count of 80 with 92 lymphocytes in the smear, a positive globulin reaction, and a colloidal gold curve of the taboparetic type (2 2.5 2.5 3 2.5 2.5 1.5 0.5 0.5).

In the face of this evidence it was apparent that this patient was suffering from a syphilitic lesion of the anterior horns. In our own experience this has been a very rare manifestation of cerebrospinal syphilis, but the question arises as to what percentage of cases of progressive spinal atrophy will resolve themselves into this class with the application of the newer diagnostic tests for neurosyphilis.

TREATMENT

The patient is now under treatment with arsphenamin intravenously and auto-arsphenamized serum intraspinally. He has had two such treatments with a diminution in the muscular fibrillation. The final result from the treatment will be reported later.

125 East Fifty-Seventh Street.

Clinical Notes, Suggestions, and New Instruments

HITHERTO UNDESCRIBED DISLOCATION OF THE PATELLA ENDWISE

JOHN W. PERKINS, M.D., KANSAS CITY, MO.
Chief Surgeon, University Hospital

Elbert B., aged 16, single, laborer at freight house, while running across the dock, Aug. 15, 1919, tried to jump over a truck but struck his right knee just above the patella smartly against the handle. He was unable to flex or extend his leg, and was immediately in considerable pain.

When examined a short time after the accident, there was found a slight abrasion of the skin 2 inches above the patella. The patella was dislocated, projecting directly toward the front of the joint, apparently endwise. Effusion into the joint was prompt and considerable. In twelve hours it was sufficient to distend the joint so that the dislocated patella was not apparent to sight.

The roentgen ray disclosed the patella dislocated in such a way that the upper end was found down between the condyles. The lower end projected forward, held by the taut patella tendon. The long axis of the patella was at right angles to its normal axis. The upper part had evidently been torn away from its attachment to the tendon of the quadriceps extensor. The leg was held in a rigid position, slightly flexed. Attempts at further flexion were extremely painful.

Under an anesthetic, an attempt was made to reduce the dislocation by manipulation. With the muscles thoroughly relaxed, the leg was flexed on the thigh, when the patella was found to return apparently to its normal place between the condyles. When the leg was extended, the patella was found in its former dislocated position. It was evident that in flexing the leg the patella was forced farther down between the condyles and turned completely over so that the anterior surface became posterior, and the posterior surface anterior. The upper end could not be dislodged from its position by any manipulation of the blood-distended joint. After two or three attempts had been made, reduction by manipulation was abandoned.

A second roentgenogram was then taken, which revealed the same position as before. The patella remained with its upper end pressed down between the condyles and the posterior surface facing downward.

Operation was performed the following day at Wheatley Provident Hospital by my assistant, Dr. L. B. Miller, assisted by Dr. H. H. Owens. The knee joint was opened by a longitudinal incision outside the patella. About 8 ounces of old blood were removed from the joint. The tendon of the quadriceps extensor was found torn loose from the upper part of the patella, and the patella was found endwise between the condyles, with the upper end directed backward toward the popliteal space. The patella was dislodged by relaxing

Dislocation of patella endwise; ligamentum patellae taut.

the quadriceps extensor muscle and hooking the finger under the patella so as to drag it upward into its normal situation, where it remained. No attempt was made to close the rent in the tendon of the quadriceps extensor. The wound was closed, and the patient made an uneventful recovery. When seen one month after the accident, he could flex the knee to a right angle and extend it to within 5 degrees of a straight line.

Cases of outward dislocation of the patella on or outside the condyle of the femur are not uncommon, and I have also seen rotary dislocations in which the patella is caught edgewise between the condyles. But an independent dislocation of the patella endwise I have neither seen before, nor can I find any reference to one in the immediate literature.

1005 Campbell Street.

AN INSTRUMENT FOR ILLUMINATION AND SUCTION IN CERTAIN SUPRAPUBIC OPERATIONS *

ERNEST M. WATSON, A.M., M.D., BUFFALO

The difficulty encountered in obtaining satisfactory illumination within the vesical cavity in certain suprapubic operations has been experienced at times by many engaged in this field of work. From the position of the bladder, deep in the pelvis, and the tendency of the pelvic viscera to encroach on the rather limited operative area, suitable illumination from above the wound cannot always be obtained. This is particularly true as regards an adequate and continued view of the base and deeper portions of the bladder cavity.

In an effort to provide a means to overcome this rather annoying handicap to many otherwise quickly executed operative procedures, an instrument has been devised to aid in illuminating the bladder cavity, and in addition to remove by suction the urine and a certain amount of blood which accumulates therein. This instrument has been found useful during the past two years in certain suprapubic work.

In suprapubic prostatectomy, many feel that a direct view of the intravesical prostatic enlargement is not always essential, and from the nature and position of the illuminator when in place, its usefulness in this procedure is limited. In practically all other operative work on the bladder performed suprapubically, however, it may be used to advantage. In simple suprapubic cystotomy, in resection of portions of the bladder wall for ulcers, new growths, etc., as well as in the resection of diverticula and in transplantation of the ureters, its use is often a distinct aid.

The composite instrument is composed of a hollow sheath with a perforated tip (on the order of the cystoscope with the Brown curve), into which is fitted an obturator. This is inserted into the urethra and passed through into the bladder after the patient has been placed on the operating table. A strip of adhesive plaster across the thighs of the patient and attached to the instrument keeps it in place. The obturator is then withdrawn, and the hollow illuminating and evacuating tube is passed into the sheath and securely fastened. By a suitable stopcock any urine is withdrawn and the bladder filled with water, antiseptic fluid or air, as may be desired, preparatory to the suprapubic cystotomy. By an electric cord attachment the current is now turned on, and the bladder is outlined by distention and illumination.

After the stay sutures are placed in the bladder wall, the fluid or air is allowed to escape through the instrument, and thus any undue soiling of the operative field is avoided. When the bladder is opened, there is placed a tightly fitting perforated cap over the light within the bladder, which serves as a protection to the bladder mucosa from any heat generated by the lamp.

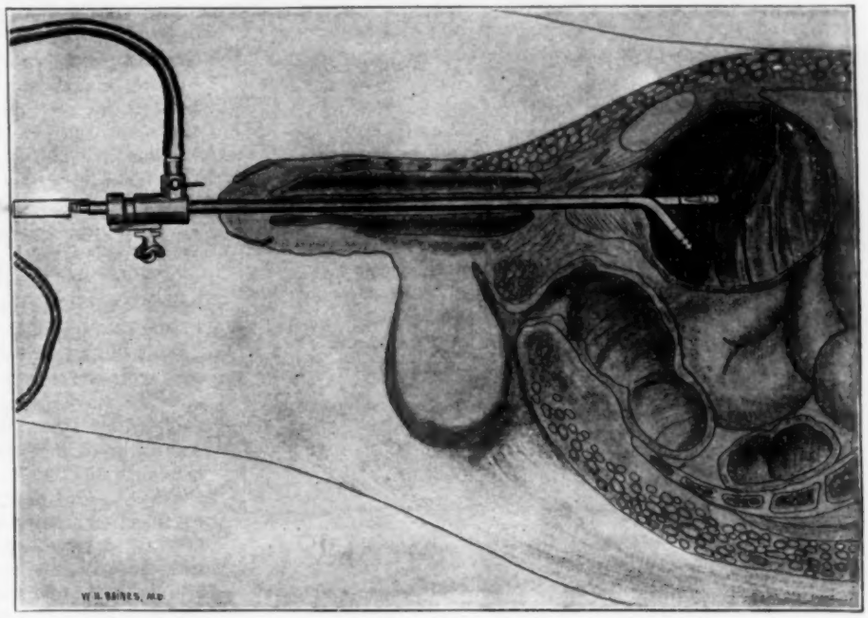


Fig. 2.—Longitudinal section of pelvis, with instrument in position.

The lamp filament is of adequate illumination to give a brilliant light for hours when it is burned in the air. When the bladder is opened a suction pump (the type that is usually found in any operating room is satisfactory) is attached by heavy rubber tubing to the evacuating nozzle of the instrument, and a gentle suction established. This is usually sufficient for removing all of the urine and much of the blood accumulating within the bladder. Several tips have been devised as suction terminals varying in size, shape and the number of openings.

The accompanying illustrations convey a clear idea of the form and method of use of this device.

469 Franklin Street.

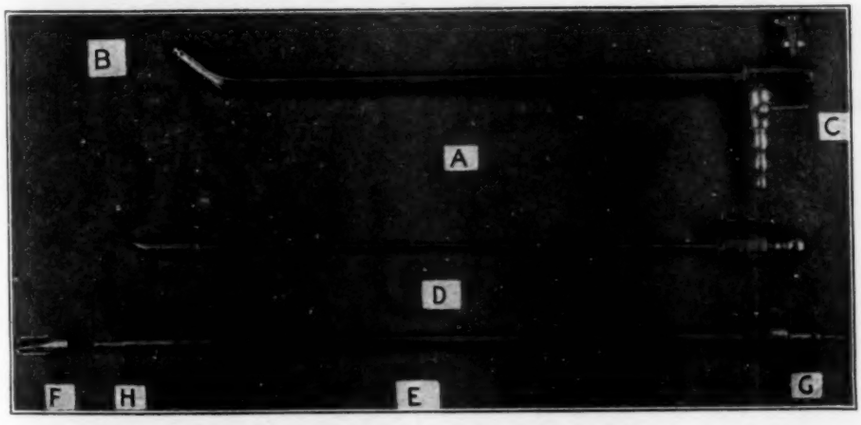


Fig. 1.—Apparatus: *A*, hollow instrument sheath; *B*, perforated tip for intake of fluid; *C*, stopcock for regulating or closing suction; *D*, obturator which fits into sheath (*A*); *E*, hollow evacuating and illuminating tube which fits into sheath (*A*); *F*, perforated cap which fits over light (*H*); *G*, light attachment for electric cord; *H*, light.

* From the Department of Urology, University of Buffalo Department of Medicine, and the Urological Service of the Buffalo General Hospital.

Malaria Control.—Needless expenditure of public funds may be averted in cases where such funds are limited to malaria control—where it is not the purpose to eradicate the mosquito merely as a pest. Assuming that November 1 was the date determined as that of ultimate mosquito infectibility, and it was desired to recommend the safe time at which to discontinue oiling or other larvicidal measures, allow eighteen days for complete transformation from the larval stage, and twelve days for the adult mosquito to become infective, a total of thirty days to be counted back from the date of ultimate infectibility. The date to be named for the safe discontinuance of operations against the mosquito as an infecting agency would then be October 1.—*Pub. Health Rep.* **34:**1972 (Aug. 29) 1919.

THE SHORT CALIPER SPLINT

ROBERT F. PATTERSON, M.D., KNOXVILLE, TENN.

The short caliper splint herein illustrated was developed by me while in charge of the orthopedic service of the U. S. Army base hospital at Fort Sam Houston, Texas. It has proved to be uniformly useful in (*a*) ununited fractures below the knee; (*b*) weak union, to guard against mishap, and (*c*) tuberculous or other disease of the ankle or joints of the foot when it is desired to take the weight off of the foot. The splint is intended for the treatment of ambulatory cases.

Short caliper splint: front view, in use, and back view.

The right angled portion at the lower end is inserted into the hole in the shoe, as in the application of the long caliper splint. The shoe is now pulled on until the heel lacks about 1 inch of coming in contact with the bottom of the shoe. Next the leather cuff is snugly laced up, and following this the shoe is laced as tightly as can be comfortably borne, after the weight has been borne on the splint. The heel should now just clear the shoe, or rest lightly on it, depending on how much weight it is desired that the foot carry.

If the leg is tender, the cuff can be lined with a pad of saddler's felt glued in place. Ordinarily the patient soon becomes accustomed to the appliance, and prefers no lining except moleskin.

It will be seen that the principle is the same as that of the long caliper, except that this splint takes its bearing surface, as in the case of an artificial leg, from the head of the tibia and fibula, and to a less extent from the entire surface of the leg beneath the cuff, owing to the shape of the leg.

This appliance has these advantages over the long caliper in fractures below the knee: (*a*) It its inconspicuous, and can be worn under the trousers; (*b*) it leaves the knee free and thereby prevents stiffness due to immobilization of this joint, and (*c*) in addition to removing the weight from a fractured bone, it acts as an effectual splint through the medium of the close fitting leather cuff, reinforced by the side irons.

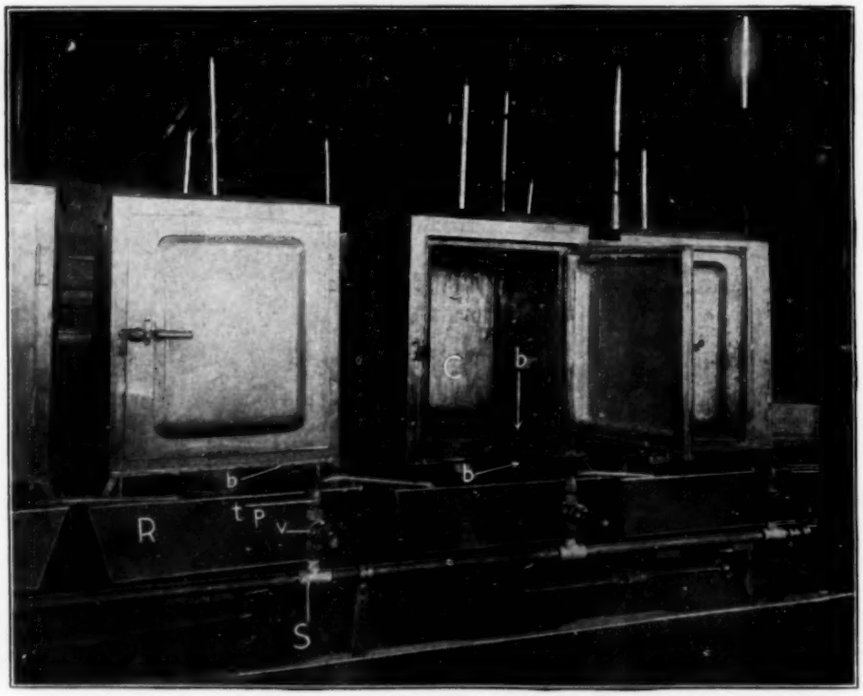
AN IMPROVED DEVICE FOR ARNOLD STERILIZATION *

WILLIAM H. BARNES, A.M., BERKELEY, CALIF.

Large classes in bacteriology necessitate the provision of a good deal of modern and efficient equipment. One of the difficulties with which we have had to contend is the provision of a sufficient number of usable sterilizers, particularly gas heated sterilizers. Although we have enough when they are all in running order, keeping them in good repair has given rise to no little trouble and expense. The gas backfires, and burns in the air chamber of the burner where the air and gas are mixed. This gives less heat units per unit of gas consumed, and results in the production of soot, which collects on the support below and which is scattered about the room. The reservoirs require frequent attention lest they become dry and burn out, notwithstanding the fact that in our laboratory they are filled automatically by siphons, an arrangement devised by Professor Hall.[1] The siphons occasionally clog or become empty and fail to maintain a constant water level.

The device here described, which was installed recently in our laboratory, eliminates these difficulties, reduces the cost of maintaining the process of sterilization, and shortens it.

This device, which is shown in the accompanying illustration, consists of a separate one-half inch pipe (*t p*), with a steam valve (*v*) carrying live steam from a central source, supplied by the main line steam pipe (*S*), to the main compartment (*C*) of each Arnold. A small opening, one-half inch in diameter, is cut in the base (*b*) of the main compartment (*C*), and the tapping pipe (*t p*) is made with an elbow to turn vertically upward into the opening just below the perforated shelf. When the steam is turned on, the temperature immediately rises to 99 or 100 C., never going above 100 C. This result obtains because the compartment (*C*) of the Arnold is not air-tight, and thus the steam cannot be confined under pressure. Part of the condensed steam falls into the reservoir (*R*) below, thus requiring that it be drained instead of being filled with water. Drainage is accomplished very easily by a connection with a nearby drain pipe.



An improved device for Arnold sterilization.

* From the Department of Pathology and Bacteriology, University of California.

1. Hall, T. C.: Automatic Water Level for Arnold Sterilizers, J. Bacteriol. 3:7 (Jan.) 1918.

With this device, we have established an efficient method of Arnold sterilization which combines cheapness, cleanliness, expediency and safety. It is economical because there are no burned out Arnold sterilizers to be repaired, the live steam from a central supply source is cheaper than gas, and there are no gas plates to burn out and be repaired. It is clean because there are no burners to backfire and thus no soot to be spread about. It is expedient because the required temperature is obtained within one minute instead of requiring fifteen or twenty minutes as with the gas heating method. Last, but not necessarily least, there is no danger from fire or overheating in case the Arnold becomes dry, as it is liable to do when in charge of a careless student.

For these reasons, we feel that we have a more efficient device than the old type of gas heated Arnold.

THE VALUE OF BACTERIAL VACCINES IN IMMUNIZATION AND THERAPY

A. M. MOODY, M.D., CHICAGO

During such an epidemic as is now in progress, many physicians become panicky and jump at anything that seems to give promise of preventive and curative possibilities. As a result, commercial houses and laboratories are reaping a financial harvest through the sale of products which could do no good and may do harm. Thus vaccines are being used by many physicians without a proper understanding of the action of such forms of treatment.

In THE JOURNAL last week was an editorial on "Influenza" which calls attention to the prevailing impression regarding specific preventive and therapeutic measures in this disease. It says: "It is doubtful whether such measures exist and also whether they will be discovered in time to demonstrate their virtues in connection with the present conditions. This is especially true when we consider that the bacteriology of these infections varies in different parts of the country and that different persons react in different ways to different bacteria." These statements, I believe, should be discussed more fully, as they have an important bearing on vaccine therapy and preventive measures in other diseases of known and questionable bacterial etiology.

Bacterial vaccines consist of suspensions of killed bacteria in salt solution, oil (lipovaccines) or water, usually with a small amount of preservative, phenol or tricresol, added. There are two kinds: "stock" and "autogenous."

Stock vaccines are those made from laboratory strains of bacteria isolated from patients some time previously. Many of these strains have been grown on artificial mediums for several years.

Autogenous vaccines contain the organisms isolated from the disease process present in the patient for whom the vaccine is made.

GENERAL POINTS ABOUT VACCINES

1. A vaccine is never an emergency form of treatment: it is not indicated in acute, generalized infections.

2. Autogenous are undoubtedly better than stock vaccines for therapeutic purposes:

(*a*) They contain a growth of the strain of organisms causing or at least associated with the trouble.

(*b*) They are freshly prepared.

(*c*) Their antigenic properties are greater.

(*d*) Their toxic properties are less.

(*e*) Organisms isolated and made into a vaccine as soon as possible after being removed from the human body usually have greater immunizing properties.

3. As a rule, vaccines prepared four months or more prior to the time when needed should not be used:

(*a*) Their antigenic or immunizing properties are low.

(*b*) Their toxic properties are high (*a* and *b* can best be demonstrated in *B. coli* and *B. typhosus* vaccines).

(*c*) They may split up even to the point at which they are devoid of either antigenic or toxic properties and are practically inert.

4. There is a question as to their specificity. Many authorities and clinicians believe that bacterial vaccines are specific in their action, that is, they cure the disease in question by the production of specific immune bodies. There are also those who go to the other extreme and believe that vaccines are absolutely valueless as therapeutic agents. Some of the former use vaccines for every disease caused by bacteria. It is probable that neither of these groups is wholly correct, since there is sufficient proof that certain diseases of bacterial origin are markedly improved following the injection of some protein material foreign to the particular specific bacteria in question. On the other hand, there is ample evidence that specific bacterial antigens in a limited number of subacute and chronic infections are valuable and do yield excellent results.

5. Vaccines when indicated should not be used to the exclusion of other forms of medical, surgical or general management. It is a mistaken idea that a vaccine used alone is a cure. A vaccine should be considered as an adjuvant and used always in addition to other forms of therapy and management indicated in the case in question.

6. According to my experience, vaccines are of value in the treatment of: (*a*) furunculosis and localized abscesses; (*b*) acne vulgaris; (*c*) colon bacillus pyelitis and cystitis; (*d*) chronic gonorrhea and gonorrheal rheumatism; (*e*) chronic bronchitis, and (*f*) bronchial asthma of bacterial origin.

7. Vaccines have very little value if any in: (*a*) infections of bone and rigid walled cavities; (*b*) intestinal tract infection, or (*c*) infections of the uterus and adnexa.

8. They are contraindicated in (*a*) acute infections and infectious diseases; (*b*) septicemia and pyemia during acute stages; (*c*) malignant endocarditis, etc.

PERTINENT QUESTIONS ON VACCINES

It is necessary, then, to ask oneself several pertinent questions:

1. *By what method or through what channels does a given vaccine produce results?* It is supposed, and to some extent known, that foreign protein substances or cells introduced into the body of an animal will be destroyed by something within the fluids, tissues or leukocytes of that animal. Undoubtedly this substance is of the nature of a ferment. It is known that repeated injections of certain of these bodies, as certain types of bacteria, will raise the power of the animal's resistance to this particular type or cell so that large numbers may be introduced without harmful results. Furthermore, these substances seem to be specific for this particular organism. Such an animal is then considered to be immune to this type of infection.

2. *Does immunization against one organism increase the resistance to other types of infection?* There is evidence in the literature of such an occurrence, more particularly in respect to closely related organisms, as in the colon-typhoid group. This, however, varies so greatly in different persons that a positive statement cannot be made.

3. *Can all persons be so immunized?* They cannot, and this is one reason for the development of bacterial disease at a time when, according to our present knowledge, resistance should be greatest.

4. *Are all strains and types of bacteria suitable for immunizing purposes?* They are not, because many bacteria are incapable of producing any reaction on the part of the host to produce specific bodies capable of destroying these organisms. The Pfeiffer bacillus (according to Victor C. Vaughan) is one example of such an organism.

5. *How long does it take immunity or increased resistance to certain organisms to develop?* It takes from eight to ten days to several weeks and sometimes longer.

6. *How long does a given increased resistance last?* This is known to vary within very wide limits from a few weeks to years. In the streptococcus and pneumococcus group, certainly, increased resistance is of very short duration and of a low degree.

TREATMENT WITH VACCINES

In the treatment of conditions in which vaccines are indicated, a good rule to follow is to begin with a dose small enough to avoid a generalized reaction, and gradually increase

this dose to the point at which perhaps only a slight local reaction occurs. At first one may give the injections every day to determine what is the proper dose for the patient being treated. When this point is determined, one should continue to give increasing doses at three or four day intervals until one is giving at each injection not more than one billion organisms. Massive doses of killed organisms are likely to be quite toxic and produce harmful rather than beneficial results. As a matter of fact, under such conditions it is possible to lower greatly the normal resistance of the person treated.

It must be remembered also that the body cells of persons with acute infections are quite sensitive to foreign protein injections. This is important, and physicians using vaccine therapy should bear it in mind and treat such patients with caution.

In prophylactic immunization, especially against typhoid, persons with chronic malaria, tuberculosis, bronchitis, nephritis, etc., are quite likely to react so severely to the ordinary injection that harmful results not infrequently follow.

SUMMARY

Vaccines undoubtedly are of value in increasing resistance against the development of certain diseases. They have curative properties in some chronic conditions, which have been enumerated. Before applying this method, the physician should be sure that the organism used is the actual cause of the condition in question. Immunity against the majority of bacterial diseases at best develops rather slowly, is rarely great, and is usually of short duration. Vaccine therapy is never an emergency form of treatment and therefore should not be used during an epidemic.

5 South Wabash Avenue.

THE DIAGNOSIS OF PRIMARY SYPHILIS BY CULTURE

Fred W. Baeslack, M.D., and William E. Keane, M.D., Detroit
Pathologist and Urologist, Respectively, St. Mary's Hospital

The physician engaged in extensive venereal practice is at times confronted by patients presenting a lesion of the foreskin or penis which, on account of previous medication, such as the use of calomel ointment, calomel dusting powder, burning with acids or escharotics, or the use of antiseptics, no longer presents the typical appearance of a chancre.

An attempt to make a diagnosis by means of the dark field usually fails, as the employment of the agents indicated above eliminates *Spirochaeta pallida* from the superficial tissues of the chancre, so that even the application of a suction cup does not yield serum which discloses the spirochete on dark-field examination.

In the course of study on the cultivation of *Spirochaeta pallida*, it was found that this organism can be grown from human tissue directly, when small pieces of such tissue are planted on horse serum medium. This medium consists of normal horse serum, free from preservatives, diluted with sterile distilled water in the proportion of 3:1. The diluted serum is put into ordinary test tubes, which are closed with rubber stoppers, previously sterilized. The tubes are filled to within an inch of the top, stoppered, and heated to 60 C. for one hour in a water-bath. The following day the temperature is brought to 70 C. for one hour, and the next day the medium is heated at 70 C. until it takes on the consistency of syrup. The tubes are then stored in the refrigerator. The heating on the three successive days not only gives the medium a semisolid consistency, but also drives the air from the medium, so that it is under a partial vacuum.

Whenever the location of the suspected sore permits, the tissue is removed by circumcision; otherwise a thin slice of tissue is removed with a razor from the edge of the lesion. The tissue is then planted, and is pushed into the medium from one half to two thirds of the length of the tube.

The tube, if taken from the refrigerator, should be warmed to body temperature before the implantation is made.

If the lips of the tube are thoroughly heated so that the surface of the medium begins to boil, the air above the medium is sufficiently rarefied to permit replacing the rubber stopper without difficulty after inoculation.

The inoculated tubes are incubated at 37 C. from three to five days, when a few drops of the medium near the tissue are removed with a pipet to a slide for dark-field examination.

Owing to the action of other organisms introduced with the tissue, the serum above the tissue may become liquefied, and the stopper blown out because of gas production by some of the bacteria. Nevertheless the spirochetes will be found in large numbers in symbiosis with these organisms, and can be detected under the dark field by their characteristic motility.

Tissues from such doubtful cases have been planted as late as twenty-four hours after removal. These tissues had been kept, wrapped in gauze, in the ice box for that length of time, and yielded positive cultures, when repeated dark-field examination of the scrapings of the fresh tissue itself were negative.

While the occasion for the procedure outlined may be rare, it will be found worthy of trial, especially since *Spirochaeta pallida* seems to remain in a viable state in the tissues for at least twenty-four hours after removal. The observation of patients, with late developments of syphilis, who never had specific treatment because the initial lesion was removed by circumcision without being recognized as specific, led us to the procedure outlined above.

Such tissues, placed in a small quantity of bouillon and the tube sealed, could no doubt be forwarded to laboratories equipped to do the necessary bacteriologic work.

Therapeutics

A Department Devoted to the Improvement of Therapy. A Forum for the Discussion of the Use of Drugs and Other Remedies in the Treatment of Disease.

USE AND ABUSE OF CATHARTICS*

(*Continued from page 325*)

PURGATIVE PILLS

ALOES

When prescribing a purgative pill, all that is really necessary is to order a sufficient dose of aloes. On account of its reliability, the fact that it does not lose its efficiency on prolonged use, and the relative smallness of its dose, aloes is the practically universal ingredient of cathartic pills. It is, therefore, worth while to study the peculiarities of this drug somewhat more closely.

As the odor is repulsive and the taste intensely bitter, aloes is unsuitable for administration other than in pill form. Its liquid preparations are therefore of no practical importance. Because of their nauseous odor, even its pills are disagreeable unless coated. When extemporaneous pills are prescribed, the mass should always be put into gelatine capsules.

Mode of Action.—It is a curious fact that the glucosids of which aloes is composed are inactive until they become decomposed into sugar and anthraquinon bodies, such as emodin, on which the activity of aloes depends. It is evidently because of the necessity for this change, which occurs in the intestine, that aloes is so slowly acting a purge. From eight to twenty-four hours may elapse before the effect occurs. Hence, it is generally administered at bedtime; though, as the active ingredient of so-called "dinner-pills," it is sometimes given with meals, whether before or after probably does not matter.

* This is the seventeenth of a series of articles on the pharmacology, physiology and practical application of the common laxatives and cathartics. The first article appeared October 18.

The conversion of the glucosids of aloes into the active bodies is favored by alkalis, including soap, and probably also by bile. This is the reason for the presence of an equal amount of finely powdered soap in the official pills of aloes, which contain 0.13 gm. (2 grains) of each of these ingredients. It is also believed that the activity of aloes is increased by iron salts; this is ascribed to their oxidizing tendency. Aloes is frequently prescribed in combination with iron in the treatment of anemia, as it at one and the same time antagonizes the constipating tendency of the iron and the tendency to constipation in the anemic patient. For this purpose a small dose of aloes, say from 0.005 to 0.010 gm. (1/12 to 1/6 grain) might be added to each one of Blaud's pills (pills of ferrous carbonate).

Aloes is a peristaltic stimulant acting chiefly on the colon. It is capable of producing purgation, when applied to raw surfaces or when given hypodermically. However, being a local irritant, it produces too much pain and inflammation to be useful as a hypodermic cathartic. When taken by a nursing woman, it may act as a purge to the babe.

Aloes has the reputation of causing collateral pelvic congestion, for which reason some consider it unsuitable for patients with hemorrhoids. However, this contraindication is certainly not absolute. Many persons who have hemorrhoids take it not only without harm but with actual benefit in the prevention of acute inflammatory disturbances by securing regular and sufficient bowel evacuation. Constipation and violent purgation must alike be avoided by the person with hemorrhoids. Patients suffering from an acute inflammatory complication of hemorrhoids are distressed by any bowel evacuation, and this distress is the greater as the evacuation is more profuse. Such patients do not tolerate active purgation of any kind, and perhaps least of all that produced by aloes.

On account of the pelvic congestion which aloes is assumed to cause, aloes is believed to be of value in amenorrhea, and to be shunned in excessive menstruation, tendency to uterine or other genital hemorrhage, and in pregnancy. While ordinary doses of aloetic pills fail when used as abortifacients, it is advisable to bow to popular prejudice, and to use for pregnant women some other cathartic, such as cascara sagrada or sodium phosphate.

Dose and Administration.—When aloes is to be used for the purpose of increasing colonic irritability in a case that is not considered one of hopelessly incurable constipation, it is best given as a "dinner pill," with meals. When it is thus given, the unit pill of aloes of 0.10 gm. (practically 2 grains, the size of the official pills) is likely to be larger than necessary, and half a dose or less may suffice. Such pills might, for instance, be thus prescribed:

	Gm.	
℞ Powdered aloes	1|50	gr. xxiii
Powdered soap	1|50	gr. xxiii

Mix. Make a mass, and divide into 30 capsules.
Label: One three times a day after meals.

If this daily dose be insufficient, the patient may be directed to use two or three of these pills, as required, and to return for another prescription when the quantity prescribed has been consumed. After regularity of bowel evacuation has been secured by means of such pills for a week or two, one dose a day is dropped weekly or monthly, as the case may permit, provided the desired effect continues; and, in this way, the cathartic habit may be avoided.

When failure of faithful and repeated trial renders it apparent that the patient seems incurably constipated, then it is best to give him a prescription for pills of sufficient size to secure a thorough evacuation when one daily dose is taken. Such a pill is to be administered at bedtime on the day the patient has been without bowel movement. The patient may be encouraged to make an attempt at stool daily after breakfast. This, as will be seen, makes for economy in pill consumption, and expresses, at the same time, our reluctance to permit the patient to rely entirely on the action of the pills. The patient, however, should also understand that a thorough bowel evacuation every other day is entirely sufficient for most individuals.

There is little actual need for concentrated aloes preparations, as the dose of aloes usually required is sufficiently small to permit the preparation of pills of proper size. This is evidently the reason why purified aloes and the extract of aloes (which has twice the strength of aloes) were deleted from the present pharmacopeia. *Aloin,* which is a mixture of pentosids, is often active in so small a dose, average 0.015 gm. (1/4 grain), that inert powder has to be added to it to make a pill of proper size. In such a case, aloin is obviously of no advantage, as we must pay the manufacturer for removal and waste of perhaps 90 per cent. of material from aloes, most of which is far from being inert. Aloin presents advantage only in a case that would require an aloetic pill of excessive size. For such a one, a pill of aloin of 0.1, 0.2, or even 0.3 gm. may have to be prescribed.

(To be continued)

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

ANTIRABIC VACCINE (see N. N. R., 1920, p. 272).

The Gilliland Laboratories, Ambler, Pa.

Pasteur Anti-Rabic Vaccine.—The virus is prepared in accordance with the general method of the U. S. Public Health Service. One-fifth of an inch of dried cord, emulsified in 0.6 Cc. of 60 per cent. glycerine containing 0.3 per cent. trikresol is supplied. This is diluted with 2.5 Cc. of sterile physiological solution of sodium chloride which is supplied at the time of injection. The treatment consists of twenty-one to twenty-four doses, and are sent separately each day by Special Delivery. The first day dose is cord, dried 8, 7 and 6 days respectively; the second day is cord, dried 5 and 4 days respectively, and daily afterward, cords, dried 3, 5, 4, 3, 3, 2, 2, 5, 5, 4, 4, 3, 3, 2, 2, 4, 3, 2, 2 days to completion of treatment.

PNEUMOCOCCUS VACCINE (See New and Nonofficial Remedies, 1920, p. 286).

The Gilliland Laboratories, Ambler, Pa.

Pneumococcus Vaccine Immunizing.—Contains Types I, II and III, respectively, in equal proportions, preserved by three cresols 0.25 per cent. Marketed in packages of four syringes containing 250, 500, 1,000 and 2,000 million killed pneumococci per Cc.; also in packages of four ampules containing 250, 500, 1,000 and 2,000 million killed pneumococci per Cc.

STAPHYLOCOCCUS VACCINE (See New and Nonofficial Remedies, 1920, p. 288).

The Gilliland Laboratories, Ambler, Pa.

Staphylococcus Vaccine (Albus and Aureus).—A suspension of *Staphylococcus albus* and *Staphylococcus aureus* in equal proportions, in physiological solution of sodium chloride and preserved with 0.25 per cent. three cresols. Marketed in packages of four syringes containing, respectively, 250, 500, 1,000 and 2,000 million killed bacteria in 1 Cc.; also marketed in packages of four ampules containing, respectively, 250, 500, 1,000 and 2,000 million killed bacteria in 1 Cc.

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SATURDAY, FEBRUARY 7, 1920

LIFE, DEATH—AND BACTERIA

The desire to prolong human life requires no defense, nor is it difficult to understand. Death is rarely a welcomed visitor in the human household; and it is quite natural that thinking minds should have occupied themselves with the possibility of averting death. As Jacques Loeb has remarked, the efforts to prolong life have resulted merely in a diminution of the chances of premature death. Modern preventive medicine has succeeded in warding off many menaces to life by conquering some of the dangerous infectious diseases and even threatening contagions. At best, however, by such accomplishments each person is merely guaranteed with greater degree of probability that he may enjoy the full usual duration of life. Death is not averted.

The students of some of the lower forms of animal life have found much encouragement for the belief that protoplasm is, in a sense, immortal. The biologist Maupas[1] had come to the conclusion, thirty years ago, that the unicellar organisms which he investigated could not continue to multiply endlessly by the method of fission which represents a common mode of reproduction in these forms. They reach a certain size, then divide in two, whereupon each fragment continues to grow to full size and then divides again. Maupas asserted that the race ran out after a time unless by the sexual process of conjugation some new strain of protoplasm was introduced into the organism. The observations of Woodruff[2] at Yale University indicate, however, that if the food and environmental conditions are suitable, reproduction may proceed an indefinitely long time without conjugation. Beginning in 1907, this American biologist has patiently followed the development of isolated infusoria through literally thousands of generations which have developed with the usual regularity without any protoplasmic contribution from other individuals of the species. Similar experiences have recently been reported by Metalnikow,[3] who conducted his experiments in Russia. The evidence from such sources suggests that fundamentally the living cell has an inherent capacity for renewal and multiplication indefinitely. In this sense, protoplasm appears to be immortal.

For higher forms of life, comparable results also have been reported suggesting, as was indicated recently in THE JOURNAL,[4] that elemental death might be postponed indefinitely if a suitable nutrition could be attained continuously for the cells. Carrel's prolonged growth of connective tissue fragments outside of the body indicates this. Are we to assume from these diverse facts that, in the words of Loeb, death is not inherent in the individual cell, but is only the fate of more complicated organisms in which different types of cells or tissues are dependent on each other? Metchnikoff was responsible for the widespread impression that foreign organisms in the guise of certain intestinal bacteria are responsible for premature senility and death. The hope of averting old age has been encouraged by the advice to exclude the alimentary offenders from the body through a suitable regimen. Until recently the question as to whether life without bacteria is actually possible might have been seriously debated; but Loeb and Northrup[5] have succeeded in raising aseptically nearly a hundred successive generations of fruit flies grown on sterilized food and themselves free from bacteria. Yet these animals all arrived at old age—and died.

Can it be that the metabolism itself of a complex organism determines the ultimate onset of death? Do the chemical processes in some groups of cells produce compounds detrimental to others, or does the transformation of materials gradually consume some essential substance which is not replaced? The scientist knows that the rate of a chemical reaction ordinarily is hastened when the temperature is raised, and decreased when it is lowered. Accordingly, Loeb[5] has reasoned that if the duration of life is the time required for the completion of certain chemical reactions in the body, the duration of life may be doubled or trebled when the environmental temperature is lowered. The test of the hypothesis has been made on the aseptic flies in which the danger of accidental death by infection is excluded. The results show that the influence of temperature on the duration of life of the fly is the same as the influence of temperature on the velocity of a chemical reaction, since a lowering of the temperature by ten degrees results in an increase in the duration of life by two or three hundred per cent., and the same figure would be obtained if we investigated the effect of temperature on the time required to complete a chemical reaction.

1. Maupas, E.: Recherches expérimentales sur la multiplication des infusoires ciliées, Arch. de zool. expér. **6**, 1889; Le rajeunissement karyogamique chez les ciliés, ibid. **7**: 1889.

2. Woodruff, L. L.: A Five-Year Pedigreed Race of Paramaecium Without Conjugation, Proc. Soc. Exper. Biol. & Med. **9**: 121, 1912; On So-Called Conjugating and Nonconjugating Races of Paramaecium, Jour. Exper. Zool. **16**, 1914.

3. Metalnikow, S.: L'immortalité des organismes unicellulaires, Ann. de l'Inst. Pasteur, **33**: 817 (Nov.) 1919.

4. The Death of Tissues and the Life of Protoplasm, editorial, J. A. M. A. **74**: 327 (Jan. 31) 1920.

5. Loeb, J.: Natural Death and the Duration of Life, Scient. Month. **9**: 578 (Dec.) 1919.

Such are the facts. Fortunately or unfortunately, our higher organisms cannot endure a lowered temperature; hence this device for prolonging existence cannot be requisitioned by man. In any event, death still appears as the natural result of life if the latter is to be conceived as the time required for the completion of a chemical reaction or series of such reactions. The problem of prolonging life thus appears to consist either in finding an antidote to the harmful products that gradually accumulate as the result of the body's metabolism, or in replacing that substance responsible for youthful condition and gradually destroyed in growth—or in both. At any rate, the bacteria no longer have the odious distinction of being the sole enemies of human longevity.

THE VOLUME OF THE BLOOD

The old practice of bloodletting was based, in many instances, on a desire to relieve what was supposed to be a condition of plethora. Even at the beginning of the Christian era in the days of Celsus, however, it was recognized that venesection should not be practiced indiscriminately. Precisely what criteria should be employed is not very clear; yet it is stated in De Arte Medica, Libri Octo:

> The determining factor (i. e., in bloodletting) is neither the age nor the pregnant state of the patient, but rather the degree of physical strength. . . . There may arise, in connection with the operation of venesection, a number of questions which are likely to puzzle an inexperienced physician and perhaps lead him into error. . . . Is it not the very essence of our art, not merely to consider the factors of age and the pregnant state, but also to form an estimate of that other and more important factor, viz., the patient's strength, and then to decide whether it is, or is not, great enough to bear the loss of blood?[1]

Strictly speaking, the assumed plethora which gave occasion for venesection assumed an increased amount of blood in the body. Modern research has indicated, however, that the volume of the circulating fluid tends to be maintained fairly constant in spite of influences tending to alter it. Pearce[2] has remarked that the "plethoric" conditions formerly thought to be appropriate for bloodletting were presumably in many instances cases of chronic hypertension in which there is, so far as is now known, no actual increase in blood volume.

There are, nevertheless, circumstances in which alterations in the quantity of the circulating medium actually occur. The regulatory and compensatory reactions of the organism whereby the exchange of fluids between blood and tissues should lead to an unaltered equilibrium is not always perfect. Thus the assertion that the effective volume of the blood is reduced in shock has been made frequently of late.[3] The treatment of hemorrhage involves consideration of the restoration of blood volume. The methods for estimating the volume have been indirect and difficult for clinical application. Many years ago, Bischoff[4] applied Welcker's method of direct determination of the hemoglobin extracted from the entire body of two decapitated criminals, thereby concluding that the blood volume constitutes one thirteenth of the body weight. Such postmortem methods would obviously not carry us far in the study of the changing conditions of disease and therapy. Today one may still find values ranging from one twenty-first to one eighth of the body weight given for the blood volume of man.

Owing to the efforts of Van Slyke and Salvesen,[5] a technic has been simplified to bring it more conveniently within the range of clinical possibility. With this, Salvesen[6] found in experiments conducted in the Hospital of the Rockefeller Institute for Medical Research, New York, an average blood volume of 3,888 c.c. in six healthy persons ranging in age from 23 to 37 years. The extreme values represented one fourteenth and one nineteenth of the body weight, with an average of 5.95 c.c. per hundred grams. It will be interesting to learn the results of applications of this technic to the study of blood volume variations in disease. The data already obtained give some indications of what may be involved in current modes of venesection, of the limits of transfusion and infusion, and of other factors concerned in the modification of the circulating medium of man.

SPREAD OF THE SPIROCHETE OF INFECTIOUS JAUNDICE

Modern medicine has taught the importance of knowing the parasites of the animals that live in close contact with man. The louse, the flea, the mosquito and the rat are not merely disagreeable pests which disturb our comfort or damage our property; they are the often unsuspected carriers of harm—the hosts of invisible foes of mankind. Scarcely five years have elapsed since the Japanese investigator Inada and his colleagues discovered that *Spirochaeta icterohaemorrhagiae* is the cause of Weil's disease, to which the name "spirochetal jaundice" may now properly be applied. This discovery was made opportunely, as epidemic jaundice became prevalent among some of the troops of the allied nations early in the war. The rat was found to be a carrier of the parasite; and as the disease reported among soldiers of practically all nations engaged in combat was found most frequently

1. Quoted from Védrènes' version (Paris, 1876) of Celsus, in Buck, A. H.: The Growth of Medicine, New Haven, Conn., Yale University Press, 1917, p. 152.

2. Pearce, R. G., cited by Macleod, J. J. R.: Physiology and Biochemistry in Modern Medicine, St. Louis, C. V. Mosby Company, 1918, p. 86.

3. Improved Methods of Treatment of Shock, editorial, J. A. M. A. **74**: 106 (Jan. 10) 1920.

4. Bischoff, T. W. L.: Ztschr. wissensch. Zool. **7**: 331, 1856; **9**: 65, 1858.

5. Van Slyke, D. D., and Salvesen, H. A.: The Determination of Carbon Monoxid in Blood, J. Biol. Chem. **40**: 103 (Nov.) 1919.

6. Salveson, H. A.: The Determination of Blood Volume by the Carbon Monoxid Method, J. Biol. Chem. **40**: 109 (Nov.) 1919.

at the front, the rat-infested environment permitted an interpretation of the probable etiologic factors.

Spirochetal jaundice is not confined to Japan or to the fields of Flanders. As might be expected, the rat in other parts of the world has given evidence of infestation with the spirochete of this disease. Lyons, Marseilles, Barcelona, Tunis, Algiers and New York have already given scientific proofs of the same danger in their midst. London is the latest city to furnish new evidence of the widespread occurrence of the parasite in wild rats. Foulerton[1] has examined more than a hundred of these rodents at the Department of Hygiene in University College, and found at least 4 per cent. infected with the spirochete of jaundice.

The worldwide distribution of reservoirs of this spirochetal disease must now be recognized. This makes it more imperative than ever to learn the mode of transmission to man. Although spirochetal jaundice in man has been caused by rat-bite, direct infection in this manner can be excluded in practically all instances, in contrast with what happens in the genesis of rat-bite fever due to *Spirochæta morsus-muris*.[2] Foulerton has pointed out that although it is not quite certain whether the spirochete of jaundice has been identified in the intestinal contents of the healthy rat, it has been found in the feces of infected guinea-pigs; and its presence in the feces in cases of spirochetal jaundice in man may be assumed. He adds that the presence of the spirochetes in considerable numbers in the urine of rat-carriers is quite sufficient to insure a wide distribution in rat-infested areas. The possible rôle of insects as accessory or alternative factors in spreading infection cannot be excluded. However, as Noguchi[3] has recorded a case in which the urine was actively pathogenic as late as four weeks after the onset of the disease, the convalescent stage of which commences usually at about the fourteenth day, the urine of human patients must still be looked on as a source of possible danger.

1. Foulerton, A. G. R.: The Protozoal Parasites of the Rat, with Special Reference to the Rat as a Natural Reservoir of Spirochaeta Icterohaemorrhagiae, J. Path. & Bacteriol. **23**: 78 (Oct.) 1919.
2. Spirochete Transmission in Rat-Bite Fever, editorial, J. A. M. A. **74**: 250 (Jan. 24) 1920.
3. Noguchi, Hideyo: The Survival of Leptospira (Spirochaeta) Icterohaemorrhagiae in Nature, Observations Concerning Microchemical Reactions and Intermediary Hosts, J. Exper. Med. **27**: 609 (May) 1918.

PHYSICAL DEFECTS AS REVEALED BY THE WAR

In the history of nations there are few instances in which an exhaustive survey of "the physical, mental and temperamental health" of a large group of the population has been made without selection. The medical examination made necessary by the drafting of millions of young men for the exigencies of the recent war has furnished statistics of a unique value which will afford an opportunity for an evaluation of the physique of mankind on a scale never approximated in any comparable degree. We have heard much of late regarding the imperfections of the new race of young citizens and the large incidence of defects which have been revealed by the war-time medical examinations. It should be remembered, however, that many of the shortcomings were of minor importance to the well-being or working capacity of the individuals concerned. The army regulations have presented a standard of physical perfection far beyond that necessitated by the requirements of comfortable and useful existence. Many recorded defects were noteworthy from a military standpoint alone.

Against the criticisms of the national health and physique of American boys we may now cite the outcome of the study made of the records of about 2,500,000 men by Major Davenport and Lieutenant-Colonel Love for the Medical Department of the United States Army.[1] In the total population examined there were found 468 men defective per thousand examined. This means that over half of the men were found to be without any physical or mental blemish significant enough to be recorded. About two fifths of all the defects were of a mechanical sort, involving bones and joints. The second place is taken by sense organs, followed by tuberculosis and venereal disease. Many of the defects were remediable; some of the diseases were curable. The army experts assert that fully 90 per cent. of the defects found were not of such a nature as to interfere seriously with the man's performing services of the highest order in civil life.

It is to be regretted that the various countries in which recruits were examined under the draft could not have adopted some uniform system of examination and classification. Recently Comrie[2] analyzed the defects exhibited by 10,000 recruits in a district in Scotland which contained both rural and urban population. The most striking facts brought out are that approximately 50 per cent. of the recruits examined were qualified for the most strenuous kind of physical work. Among the other 50 per cent., about two fifths were capable of fairly strenuous work, a little less than this proportion were capable only of clerical duty, and about one sixth were either postponed or rejected. Although the system of classification adopted by the United States differed materially from that adopted in Great Britain and it is difficult to make an accurate comparison of the two countries as to the relative efficiency of their man power, certain points may be discussed to advantage.

A comparison of the cause of the rejections among the Scottish and American draft registrants is difficult not only on account of the different systems used but also because American statistics show extraordinary variations in different states. It is true, of course, that Comrie's figures are probably not applicable to the entire United Kingdom, though it is doubtful whether the great divergence would exist there that exists in a

1. Davenport, C. B., and Love, A. G.: Defects Found in Drafted Men, Scient. Month. **10**: 1 (Jan.) 1920.
2. Comrie, J. D.: Lancet **2**: 957 (Nov. 29) 1919; abstr. J. A. M. A. **74**: 61 (Jan. 3) 1920.

country with the extent and climatic variations of the United States. There would doubtless be material differences in the causes of disability in different parts of the United Kingdom as there are here. Taking diseases of the thyroid gland as an instance, it is noted that among Comrie's Scottish recruits only 0.5 per cent. were rejected on account of goiter. These figures are comparable to those from some of our states. Indeed, in Maine only 0.3 per cent. of the recruits were rejected for thyroid disease. On the other hand, 6.2 per cent. were rejected in the District of Columbia; and in other states, Missouri and Wisconsin, for example, the percentage rejected for disease of the thyroid was high. Great discrepancies are found in connection with other diseases. It is hard to understand, for example, why only 1.07 per cent. of the Scottish recruits were rejected for pulmonary tuberculosis, while in one American state 23 per cent. of the recruits were rejected for this reason. One is forced to the conclusion that such an enormous difference in such a prevalent disease cannot be due to local variations in the incidence of the disease but must be due to variations in the methods of examination and in the interpretation of physical findings.

These figures of Comrie serve to call our attention once more to the fact that a considerable proportion of the male population is suffering from defects, many of which are preventable. Comrie's figures show that the proportion of men capable of the more strenuous forms of military duty progressively diminishes from 77 per cent. at the age of 18 to 30 per cent. at the age of 40. The American figures published so far do not touch on this particular aspect of the situation, but there is no special reason to believe that the general principle is any different in the United States than it is in Scotland. There is always danger, particularly if this country does not adopt some form of conscription, of forgetting the valuable lessons which were learned as the result of the wholesale examinations made by the draft boards and by the boards of medical officers at the camps. The particular point of view that is emphasized by these results is the necessity for a much wider application of individual preventive medicine than has heretofore been deemed necessary. The day is past when preventive medicine consisted merely in attention to water supplies, sewerage and general sanitation. The education of the public in the principles of correct living and the periodic examination of supposedly healthy individuals must become part of our creed as physicians if any great progress is to be made in the prevention of disease. While the necessity for community hygiene continues and still needs developing in many quarters, it has been clearly demonstrated that general sanitation will carry us only so far, and that the preventive medicine of the future must be concerned with the individual much more than has the preventive medicine of the past. The nineteenth century was the century of communal hygiene; the twentieth must be the century of individual hygiene.

Current Comment

SOME PUBLIC HEALTH PROBLEMS IN CENTRAL EUROPE

Only he who is blind to the tendencies of the times will fail to see the progress being achieved by that movement for public health which has been described in a measure as the socialization of medicine. Comparatively few of the long desired activities in the direction of preventive medicine have received governmental support in an authoritative way. The public health agencies carefully guard us as a nation against the attack of many infectious diseases, but most of the efforts to advance human welfare receive their initiative in the work of the individual or groups of persons organized for the common good. The war has been an impetus to put into operation many health projects that were making only slow advance in the self-satisfied days of peace. Nation-wide plans for health betterment and the conservation of human life have been launched. In England a ministry of health has at length been made a reality. It is interesting to learn, from the words of an expert, what the pressing problems of public health are in the reconstruction period of the defeated countries. In an address before the new Prussian parliament of which he has become a valued member, Professor Abderhalden[1] of Halle, widely known in this country as an energetic physiologist, has discussed the current needs with great frankness. Foremost is the desirability of improving the physiologic status of the child population. It has been undernourished physically and mentally. The mortality in childhood has increased greatly, and this ordinarily happy period of life has been robbed of its joys. One of the new plans proposed to counteract the situation aims to send children away to tolerant neutral countries for recuperation—a novel suggestion. The transport of curable tuberculous children to Switzerland, where milk is available, is included in the suggestion of a medically supervised adolescence. The improvement of the living conditions, and in particular the dietary, of the working people is likewise urgently recommended to the governmental authorities. In some regions the lack of abundant rations of a suitable sort has led to decreased output. The campaign against venereal disease seems to be needed as never before in central Europe. The freedom from governmental restraint which comes to all incipient revolutionary democracies is always liable to be attended with license of conduct. Our own national dangers from the venereal menace are by no means trivial; but, added to tuberculosis and undernutrition, the venereal diseases furnish an exceptionally serious problem. The worst features of alcoholism are expected to disappear in the United States with the establishment of permanent, nation-wide prohibition. A few months under the new regimen ought to furnish indisputable evidence as to its hygienic worth. Abderhalden sees a threat of great harm ahead for his country when once the routes of

1. An account of the address is given in the Münchener medizinische Wochenschrift, Oct. 3, 1919, No. 40, p. 1156.

trade are restored so that alcoholic drink can be imported or the possibility of its manufacture restored. How temperance is to be instituted in the midst of a nation which craves the return of alcohol will prove to be a problem of singular difficulty for legislatures and ministries to solve.

UNIVERSAL MILITARY TRAINING

The Wadsworth army bill, having been reported from committee, now approaches final consideration and action by the senate. Great interest has developed in the universal training feature of this bill, on which we commented last week.[1] Physicians are interested in this feature from two points of view: first, as it concerns the creation of an active medical reserve corps, and second, in its relation to the physical development of the young men of the nation. If we are to give actual field training to all of the young men of our country in future years, it will be necessary that they be physically examined before going into active training, that their health be guarded during the period of training, and that they receive periodic examination during subsequent years, so as to determine their fitness for service if need demands. At the same time as these young men are trained, it will be necessary to train the medical reserve officers who are to take care of them under military conditions. From the general point of view, the matter is one that affects the health of the entire nation. In the first place, physical examination of these young men will disclose certain defects which may be corrected, thus prolonging their lives. The period of physical training in the field will bring about increased physical stamina, which will mean a better type of man. Those who saw the results of military training on the physical condition of our selective service army need no argument as to the beneficial effects of such training. Increased stature, more erect carriage, greater muscular ability and elimination of superfluous adipose tissue were distinguishing signs of those who had had even brief periods of such training.

THE RELATION OF DIABETES INSIPIDUS TO DISEASE OF THE HYPOPHYSIS

The etiology of diabetes insipidus was for a long time shrouded in mystery. It was known that the disease was associated in many instances with injuries involving the base of the brain and with pathologic lesions occurring in that region. It was a notable fact that syphilitic lesions involving the basal region were particularly likely to be associated with diabetes insipidus. It is only in recent years, however, that a relationship between this disease and disturbances of the function of the pituitary body has been seriously considered. As studies of pituitary disease have progressed, it has been noted that polyuria is a not infrequent symptom. In dystrophia adiposogenitalis, this symptom may be pronounced; in acromegaly, both polyuria and glycosuria may be present, and in certain types of infantilism associated with pituitary disease, the passage of large quantities of urine may be an outstanding feature. It has been noted, too, that tumors in the neighborhood of the hypophysis which exert pressure on this gland can be associated with the clinical picture of diabetes insipidus. As Pagniez[1] points out, it was only in 1913 that it was first demonstrated that the administration of pituitary extract has a decided effect in controlling the urinary output in some of these cases. Since that time a number of observers have confirmed this observation, although the administration of pituitary extract has not invariably been successful in this regard. In many of the cases the effect has been of a more or less temporary nature. Experimental work, such as that done by Harvey Cushing in this country, has likewise shown a relationship between the pituitary gland and the excretion of urine. Damage to the pituitary gland during operative procedures may result in polyuria, and ablation of the gland in animals likewise results in polyuria. These observations all tend to show that there is a definite relationship between the syndrome that we call diabetes insipidus and disease of the hypophysis, particularly the posterior lobe. The exact mechanism of the process is not yet clear. The importance of such a relationship, however, has a bearing on diagnosis, and suggests the careful roentgenographic examination of the skull in cases of this nature. Therapeutically, it suggests the administration of pituitary extract as a curative measure.

YEARS AND POWERS

The recent death of Field Marshal Sir Evelyn Wood at the age of nearly 82 recalls that the great war has furnished many contradictions of the prevalent impression that men who are subjected to severe strains and stresses in life, under a heavy burden of responsibility, are likely to break down and either suffer from nervous exhaustion or else die when comparatively young. Sir Evelyn Wood was a veteran of the Crimea; he was wounded in the assault on the Redan some sixty-five years ago, yet he took an active part in the organization of the British army during the recent war. He had served through the Indian mutiny with great distinction, receiving the Victoria Cross for bravery, served through the Ashanti war in South Africa as well as the Kaffir war and then the Zulu war, spent six years in Egypt in the strenuous post of commander of the forces in the lines of communication under Lord Wolseley, and after his retirement from the army as field marshal was active as the chairman of the Association of the City of London for organizing a territorial force. A great many distinguished military leaders have been noted for longevity. Von Moltke, who went through the strain and stress of the Franco-Prussian War fifty years ago, lived, like Sir Evelyn Wood, to be well beyond 80. Though Lord Roberts, the great English general, had been so disabled that his life was despaired of as a young man, he obtained the Victoria Cross for bravery, had been wounded a number of times, went through the Boer war, and yet was so far from exhaustion at 80 that the English government entrusted to him a large measure of responsibility for the mobiliza-

1. Universal Military Training, Current Comment, J. A. M. A. **74**: 329 (Jan. 31) 1920.

1. Pagniez: Presse méd. **27**: 746, 1919.

tion and organization of the fighting forces on the western front. He died of pneumonia not far behind the lines in France, quite as any younger man might have done. Among the French, Clemenceau and Foch are conspicuous examples of what older men accomplished in the great emergency. The idea of exhaustion as a source of pathologic development and especially of such lack of nervous control as has been called nervous breakdown has not, therefore, been wholly confirmed by the war's experiences. It might confidently have been expected that the demands made on the human organism would surely cause collapse. However, unless there was definite predisposition, personal or hereditary, to the occurrence of serious nervous symptoms, these do not seem to have developed either in military or civil conditions in spite of the intense strain to which the war subjected many people. This was particularly true with regard to men who were well on in years when the war broke out. The war has shown that both men and women can stand more than was believed possible. It has also demonstrated that the powers of men are maintained to a greater age than has usually been conceded.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARKANSAS

New Officers.—Washington County Medical Association at its annual meeting in Springdale, January 17, elected Dr. Richard T. Henry, Springdale, president; Dr. Ephraim G. McCormick, Prairie Grove, vice president; Dr. Nina V. Hardin, Fayetteville, of the University of Arkansas Infirmary, secretary, and Dr. William H. Mock, Prairie Grove, treasurer.——Sebastian County Medical Society at its annual meeting in Fort Smith, January 17, elected Dr. William R. Brooksher, Fort Smith, president; Dr. Dred R. Torente, Fort Smith, secretary, and Dr. Rufus F. Parks, Bonanza, treasurer.

COLORADO

Cancer Campaign.—Dr. Charles A. Powers, Denver, chairman of the Colorado committee of the American Society for the Control of Cancer, states that the committee has privately secured funds which will enable them to send the little booklet called "What We Know About Cancer" to the physicians of the state.

Course in Public Health Nursing.—The University of Colorado announces a four months' course in public health nursing under the joint auspices of the University of Colorado extension division, and the Colorado Fuel and Iron Company, to be held in Minnequa steel works and hospital, with field work in Pueblo and mining camps, from March 1 to June 21. The course consists of lectures and class recitations and field work. The tuition fee is $25 for the course.

CONNECTICUT

Personal.—Dr. Thomas Eben Reeks, New Britain, has resigned as deputy commissioner of public health and director of the bureau of preventable diseases.

Society Meetings.—Waterbury Medical Association at its annual meeting, January 12, elected Dr. Edward W. Goodenough, president; Dr. Michael J. Lawlor, vice president; Dr. George A. Gosselin, secretary, and Dr. George O. Robbins, treasurer.——New Britain Medical Society recently gave a dinner in honor of its members who served in the United States Army or Navy during the war.

Mental Hygiene Division Established.—The department of health of Connecticut has established a division of mental hygiene and has appointed Dr. William B. Terhune, New Haven, director of that division. The Connecticut state department of health is the first in the United States to establish a division for the supervision of the care, and the enforcement of the laws, relative to the mentally afflicted.

Sanatorium Opened.—The state tuberculosis commission has issued a statement that the sanatorium at Crescent Beach for the treatment of bone and glandular troubles is opened for the receiving of patients. There are accommodations for fifty-eight patients. With a view to having every patient examined on admission, the state has been divided into districts and a physician designated to make examinations in each district. Dr. William M. Stockwell, Hartford, will make examinations for Hartford County, Dr. Cole B. Gibson, Meriden, for New Haven County, and Dr. Hugh B. Campbell, Norwich, for the eastern part of the state. Dr. Edward J. Lynch, Shelton, will have charge of Fairfield County. The examinations in Litchfield County will be conducted by Drs. Lynch, Stockwell and Gibson.

IDAHO

Health Progress.—More than $400,000 will be expended in the next biennium for improvements at the various state institutions. Two department hospitals will be erected at a cost of $140,000, one in the northern and the other in the southern part of the state.

Smallpox.—The state bureau of public health on January 7 asked the municipal and county officers to pass regulations requiring all children who attend school to be vaccinated for smallpox. The disease is present in twenty-six of the forty-four counties of the state.

ILLINOIS

Personal.—Dr. E. Bruce Godfrey, Springfield, has accepted a position in the Red Cross service, and expects soon to leave for his new field of work in Roumania.

Influenza.—February 1 and 2, only fifty-three influenza and six pneumonia cases were admitted to the hospital at Great Lakes, and no deaths were reported, February 2. This brings the total number of cases up to 1,403.

Sanatorium Burns.—Fire destroyed the main building of the Edwards Sanatorium, Naperville, February 1. The patients were removed to other buildings of the institution without casualty or panic. The loss is covered by insurance.

Grant for Therapeutic Research Work.—Northwestern University Department of Chemistry has received a grant of $3,500 from the interdepartmental social hygiene fund of the United States government for the purpose of supporting research leading to the development of new metallo-organic compounds which may prove of therapeutic value in the treatment of syphilis of the central nervous system. A plan of cooperation has been worked out between the Universities of Wisconsin, Minnesota, Illinois and Northwestern whereby all pharmacologic work will be done by the first named institution and the synthesis of new compounds by Minnesota, Illinois and Northwestern in cooperation.

Illegal Practitioners Fined.—James A. Savage of Danville was arrested by the Department of Registration and Education of the State of Illinois, for practicing medicine without a license. He was found guilty by a jury and given a jail sentence of ninety days and fined $50, the jail sentence to be suspended provided Savage secures a state license or quits practicing. In passing sentence, Judge Partlow stated that the people had a right to ask any man practicing medicine or healing to secure a state license; that the law required it and, therefore, there was no other way around it. ——Mrs. Antoinetta Bolstepa of 2929 South Shields Avenue, Chicago, was arrested by the Department of Registration and Education of the State of Illinois for practicing midwifery without a license and was fined $25 and costs. She promised to discontinue practicing in the future.——Frances Wesolowski of Blue Island was also arrested by the department and fined the minimum amount for practicing midwifery without a license.

Chicago

Influenza.—During the twenty-four hours ended February 2, only 802 cases of influenza were reported, with eighty-nine deaths from influenza and sixty-nine from pneumonia.

Vienna Thanks Chicago.—Dr. Carl Beck, secretary and manager of the Vienna Relief Fund, has received from Dr.

Adolph Lorenz, Vienna, a letter acknowledging the receipt of 250,000 crowns, to be distributed for food and clothing. Since the date of that letter, $35,000 have been cabled to Vienna from Chicago.

Drive for Augustana Hospital.—Final arrangements for a campaign to raise $700,000 for the Augustana Hospital between February 16 and 26 were provided at a meeting of the executive committee, January 30. Chief Justice Harry Olson is chairman, and Mrs. John A. Christianson vice chairman of the committee.

Postponement of Meeting.—Owing to the epidemic of influenza, the joint meeting of the Minneapolis Academy of Ophthalmology and Otology the Milwaukee Oto-Laryngological Club, the Chicago Oto-Laryngological Society, and the Chicago Ophthalmological Society planned for this month has been indefinitely postponed.

Visiting Nurse Association.—The thirtieth annual meeting of the Visiting Nurse Association of Chicago was held, January 30, under the presidency of Mrs. Joseph M. Cudahy. The treasurer reported a balance of $30,317 in the treasury. During the year ten new nurses were added to the staff. Mrs. Cudahy was reelected president.

Institute of Medicine.—At the meeting of the Institute of Medicine of Chicago, January 30, at the City Club, Dr. Victor C. Vaughan of the University of Michigan, Ann Arbor, presented a paper on "Remarks on the Chemistry of the Protein Molecule in Relation to Infection," and Dr. Karl K. Koessler spoke on "The Relations of Proteinogenous Amins to Medicine."

Robert Koch Society Meeting.—The thirty-seventh meeting of the Robert Koch Society for the Study of Tuberculosis was held, January 29, under the presidency of Dr. Ethan A. Gray at the City Club. Dr. Edwin B. Tuteur spoke on "Neglected Opportunities in the Therapy of Tuberculosis;" Dr. James A. Britton on "Tuberculosis and Occupation," and Dr. Wilson Ruffin Abbott on the "Value of the Diagnostic Clinic to a Community."

Cook County Staff Appoints.—The following appointments are announced to the attending staff of the Cook County Hospital as a result of the competitive examination given by the Cook County Civil Service Commission: Diseases of children, Drs. Julius H. Hess, M. L. Blatt, Stanley Gibson, Walter F. Winholt, August Strauch and May Michael; laryngology, Dr. Samuel Salinger; ophthalmology, Drs. E. Findlay, G. F. Suker and C. G. Darling; gynecology, Drs. C. Culbertson, C. W. Barrett, H. Schmitz and W. J. Woolston; nervous and mental diseases, Drs. G. B. Hassin, L. J. Pollock, S. Krumholz and I. L. Meyers; obstetrics, Drs. D. S. Hillis, F. H. Falls, H. F. Lewis and W. G. Lee; pathology, Drs. H. G. Wells, E. R. LeCount, D. J. Davis and J. P. Simonds; skin and venereal diseases, Drs. J. S. Eisenstaedt, E. J. Zeisler, E. A. Oliver and A. W. Stillians; surgery, Drs. D. C. Straus, R. T. Vaughan, D. N. Eisendrath, V. C. David, R. W. McNealy, P. Oliver, K. Speed, H. Jackson, K. A. Meyer, W. R. Cubbins, G. L. Davenport, F. G. Dyas, F. A. Besley, G. G. Davis, H. McKenna, H. M. Richter.

INDIANA

Smallpox.—During the first twenty-four days of the year, 133 new cases of smallpox were reported to the Evansville board of health.——The state board of health is supporting the local health board of Evansville in its action taken in excluding from school those children who have not been vaccinated against smallpox.

Personal.—Dr. Lewis R. Thompson, Lafayette, who recently accepted a position in the Public Health Service in the Philippine Islands, has been selected to establish and superintend the new marine hospital in Manila.——Dr. Carleton B. McCulloch, Indianapolis, has announced his candidacy for the democratic nomination for governor.

Admits Illegal Practice.—A. W. Van Bysterweld, Warsaw, appeared in Circuit Court, January 19, and pleaded guilty to the charge of illegal practice of medicine and was fined $25 and costs, and released on his promise to leave the state. He contended that he was not a physician but a chemist. It is said that he has been convicted on several occasions on similar charges.

Health Board Operates at Loss.—The Indianapolis board of health operated during 1919 with a deficit of approximately $75,000, or $3,000 greater than the deficit in 1918. This deficit was due principally to increased salaries and cost of supplies. During the year the hospital handled more than 10,000 patients. The appropriation available to the health board during 1920 is about $327,000, and the budget will be revised in an endeavor to keep the expenditure within the appropriation.

War Service Gives Credits.—The treasurer of the Indiana State Board of Medical Registration and Examination announced, January 23, that hereafter service in the medical department of the Army, Navy or Marine Corps may be accepted as time credits for the examination to practice medicine in the state. The first examination under the new ruling will be held at the state house, Indianapolis, February 10, 11 and 12.

Influenza.—The city of South Bend has appropriated $1,000 for use of the Visiting Nurses Association in combating influenza. The crest of the epidemic seems to have passed, as less than 100 new cases were reported, January 27.——Mishawaka is said to have had seventeen deaths due to influenza since January 1.——The total number of cases of influenza in South Bend is reported to have been about 2,100, with forty-seven deaths from influenza and pneumonia.——The city council of Fort Wayne, January 23, appropriated $10,000 to be used in the fight against influenza.

New Health Divisions.—Plans for the working of the two new divisions of the state board of health include the holding in each congressional district of public meetings at which the work of the divisions will be discussed. The tuberculosis division will have a director, assistant to the director, and two nurses, who will hold meetings throughout the state aiming at prevention rather than care and cure of patients suffering from the disease. The infant hygiene division will be similarly organized and will hold similar meetings; it will deal only with children of 5 years of age or younger, and will endeavor to encourage knowledge of prenatal hygiene.

MASSACHUSETTS

Home for Incurables.—The Northwestern Deaconess Association has assumed control of the Cullis Home in Roxbury and will conduct the institution exclusively for the care of persons afflicted with cancer and other incurable diseases. The institution will be known hereafter as the Palmer Home.

Out-Patient Medical Society.—At the first clinical meeting of the Out-Patient Medical Society of Massachusetts General Hospital, Boston, held January 22, Dr. Paul D. White discussed "Practical and Modern Teaching of Heart Disease," and Dr. Richard H. Miller spoke on "Errors and Shortcomings in Diagnosis."

Campaign Against Cancer.—In the campaign against cancer free diagnosis of pathologic specimens is offered to the profession of the state by Harvard Commission for Cancer Research through the commissioner of health. Pathologic specimens should be sent to the director of the state diagnosis service, Cancer Commission, Medical School of Harvard University, Boston.

Tuberculosis League.—The Massachusetts Tuberculosis League is reorganizing to carry through a more intensive campaign for the prevention of tuberculosis. This is in accordance with the plans of the National Tuberculosis Association, which is planning to raise more than $7,000,000 throughout the country for financing the greatest drive for health education undertaken in the world's history.

Personal.—Dr. William R. P. Emerson, Boston, lectured on child nutrition in eight schools in Chicago and at the Art Institute in that city on January 22, 23 and 24.——Dr.. Sylvester E. Ryan, Springfield, has been nominated by the governor as a member of the state public health council, succeeding Dr. William J. Gallivan, Boston, resigned to accept the position of director of the tuberculosis sanatoriums of the state.——Dr. Richard C. Cabot, Boston, has been appointed professor of social ethics in Harvard University.

Free Medical Lectures.—The annual course of free public lectures given at the Harvard Medical School, Longwood Avenue, at 4 p. m., on Sunday afternoons was inaugurated, February 1. The following is the schedule of lectures:

Feb. 1—Dr. Richard M. Smith, Boston. Child welfare.
8—Edwin H. Place, Boston. Smallpox and vaccination.
15—Dr. Harold C. Ernst, Boston. Protection against infection in diseases other than smallpox.
22—Dr. Kurt H. Thoma. Diseases of the teeth in relation to systemic disturbances.
29—Dr. Frederick T. Lord, Boston. Pneumonia.
Mar. 7—Dr. Percy G. Sales, Boston. Some aspects of alcohol.
14—Dr. W. T. Boyle. New conceptions of the structure of matter.
21—Dr. Cecil K. Drinker, Cambridge. Health and industry.
28—Dr. Channing Frothingham, Boston. Some points of interest to the public in regard to medical education as brought out by the recent war.

Plainfield Health Clinic.—A few years ago a summer resident of Plainfield conceived the idea that an annual lecture and demonstration on some health topic by a representative of the state department of health would assist in teaching certain fundamentals necessary to personal and community health. This plan has developed into a midsummer health clinic to which children, no age limit, may be brought for physical examination and for advice. Troublesome temporary teeth are extracted, children are vaccinated on request of a parent, mothers are instructed in the proper care and feeding of infants and growing children and concerning the correction of physical defects. Following the clinic session, those children requiring further examination and treatment are transported to a hospital for necessary special advice and treatment.

MARYLAND

Election.—At the regular meeting of the Baltimore County Medical Association, January 21, the following officers were elected: president, Dr. John W. Harrison, Middle River, and secretary, Dr. George S. M. Kieffer, Morrell Park.

Personal.—Dr. William H. H. Campbell, Owings Mills, was injured recently by falling on the ice.——Dr. John M. T. Finney, Baltimore, has declined the offer made him by Harvard University and will continue his connection with the Johns Hopkins Hospital and Medical School.

Typhoid Rate Low.—Despite the fact that conditions in the new annex of Baltimore city are more favorable to the spread of typhoid fever than in the older part of the city, Baltimore during the year just passed, had the lowest death rate from typhoid fever in its history. There were sixty deaths during the year from this disease, and of these fifty were among white persons and the remainder among negroes.

Eudowood Sanatorium to Expand.—Extensive improvements will be made during the present year to Eudowood Sanatorium, Towson, according to reports of the officers submitted at the annual meeting of directors in Baltimore, January 26. The greatest need is a nurses' home, which the woman's board will erect at a cost of from $25,000 to $30,000. Plans also will be considered for additional private rooms to the Victor G. Bloede Hospital, for an additional medical building, supplied with roentgen-ray laboratory, dental equipment and a medical library, for an additional infirmary and other improvements. Work on these will be begun as soon as weather permits. Dr. Henry Barton Jacobs, Baltimore, president of the board of directors, told of the excellent work accomplished since the institution was established, and emphasized the need for more beds for advanced cases.

Influenza on Increase.—During the week ending January 31, influenza has increased rapidly in Baltimore. January 30 the greatest number of new cases developed, 452 being reported for a period of twenty-four hours, making 1,386 cases reported to the city health department since the beginning of the present outbreak. The cases are well scattered, virtually every section of the city being affected. The severe symptoms of the outbreak of 1918 are absent, the death rate continues low, and many of the cases reported as influenza are nothing more than "ordinary colds" Pneumonia also continues on the increase, the new cases reported in one day being lobar pneumonia, twenty-three; bronchopneumonia, twenty-one; with eight deaths from lobar pneumonia and one from bronchopneumonia.——The state board of health received reports of 516 new cases in the counties for a period of twenty-four hours on the same date. Montgomery County took the lead reporting 324 cases; Prince George's County had 153, and Frederick County, eighty-three cases.——From Camp Meade came reports of 122 cases. Camp officers reported fourteen new cases for the day. Twelve cases have been reported from Fort McHenry Hospital. A small epidemic of influenza has broken out at Edgewood Arsenal, the disease having been brought to the reservation by chemical warfare troops.

MISSISSIPPI

Physician Found Guilty.—In the case of Dr. Fletcher E. Lee, Petal, charged with manslaughter as the result of performing a criminal operation, the jury is reported to have brought in a verdict of guilty, January 27.

New Officers.—At the annual meeting of the Lauderdale County Medical Association held at Meridian, January 10, Dr. Julian T. Bailey, Meridian, was elected president; Dr. Thomas G. Cleveland, Meridian, vice president, and Dr. Hiram C. Sheffield, Meridian, secretary.

Work of State Laboratory.—In the annual report of the work of the state hygienic laboratory for the biennium ended June 30, 1919, it is shown that 30,707 specimens were examined, thirty-eight patients who had been bitten by rabid dogs were treated free of charge, and 101,243 c.c. of anti-typhoid vaccine were distributed to the people of the state.

Need of Home for Feebleminded.—The Mississippi Society for Mental Hygiene in a recent bulletin urges the need of an institution for the feebleminded, as an economic proposition to save lives and property destroyed by feebleminded when allowed to be at large. The hospital mental efficiency bill to be considered by the next legislature establishes a Mississippi school and colony for the feebleminded and provides a plan for a chancery court to commit feebleminded individuals to this institution. The bill carries an appropriation of $200,000.——In two orphanages in Mississippi with a population of 2,080, forty-one children were found so defective mentally that they could never be made self-supporting citizens

NEW YORK

Influenza.—Madison Barracks at Sacketts Harbor has been quarantined against influenza. The measure is precautionary, as only one case of the disease has thus far developed.——Influenza has broken out among the inmates of Sing Sing prison, and so many are ill that the prison schoolrooms have been turned into an auxiliary hospital to care for the patients. The prison is in need of nurses and special facilities.

New York City

Fire in Hospital.—A fire recently occurred in the administrative part of the Lenox Hill Hospital, but was promptly controlled. The loss is estimated at $5,000.

Influenza on Liner.—The Cunard Line S. S. *Kaiserin Auguste Victoria*, sailing from New York, January 17, arrived in Plymouth, England, with sixty cases of influenza aboard and reported one death from the disease during the passage.

Red Cross Starts Health Service.—The New York County chapter of the American Red Cross has organized within the chapter a new department of health service the object of which is to strengthen existing public health agencies. George R. Bedinger is acting director of the new department.

Personal.—Dr. Jacques Loeb of the Rockefeller Institute for Medical Research has been elected president of the American Society of Naturalists.——Dr. Abraham Jablons has been appointed medical inspector in the bureau of hygiene of the department of health.——Dr. James MacFarlane Winfield, for many years professor of dermatology in the Long Island College Hospital, has resigned.——Dr. Rudolph Matas, professor of general and clinical surgery at Tulane University, New Orleans, was elected an honorary member of the New York Academy of Medicine at the annual meeting, January 15.——Dr. Sigmund Pollitzer has been elected a corresponding member of the French Society for Dermatology and Syphilis.——Dr. William Golden Mortimer has been elected director of the ophthalmologic department of the new throat, nose and lung hospital, and designated special surgeon to the throat, nose and ear department.

The Influenza Epidemic.—January 30, the health department reported 5,532 new cases of influenza and 831 cases of pneumonia, an increase of 831 cases of influenza and a slight increase in the number of cases of pneumonia over the preceding day. From the onset of the epidemic there have been recorded 30,000 cases of influenza and 6,031 cases of pneumonia, with 545 deaths from influenza and 1,696 from pneumonia. It is believed that the epidemic has not yet reached the peak. The disease is, however, manifestly milder than in 1918. To meet the acute shortage of nurses, the health department is opening an emergency training school for nurses at 505 Pearl Street, where no charge will be made for the training The police department, cooperating with the sanitary squad of the health department, has placed officers in the elevated and subway stations to serve summonses on those who spit or carry lighted cigars in forbidden places

Death Rate for 1919.—The death rate of New York City last year reached the lowest level ever recorded since the establishment of accurate vital statistics fifty years ago. The rate for the year was 12.39 per thousand as compared to 16.71 in 1918, and 13.94 for the five year period 1913 to 1917, inclusive. Generally speaking, where two persons died fifty years ago out of every thousand population, only one

died during 1919. This tremendous reduction in the death rate is the direct result of preventive measures on the part of the sanitary officials. The diseases in which the rate was lowered were typhoid, malaria, smallpox, measles, scarlet fever, whooping cough, diphtheria, tuberculosis and diarrheal diseases of children. The lowest annual infant mortality rate recorded in the history of the city of New York was in 1917, when the rate was 88.8 per thousand children born. The second lowest rate was in 1918, when, with a birth registration of 138,046, there were 12,657 infant deaths and an infant mortality rate of 91.7 per thousand children born. For the first forty-five weeks of 1919, the infant mortality rate, based on a thousand births, was 86 as against 91 for the corresponding period in 1918, and 89 in 1917.

NORTH CAROLINA

New Officers.—At the annual meeting of the Wake County Medical Society held in Raleigh, January 8, Dr. Clarence A. Shore, Raleigh, was elected president; Dr. James M. Harper, vice president, and Dr. William C. Horton, Raleigh, secretary-treasurer.

Hospital Items.—The North Carolina General Hospital has been incorporated and has let the contract for a $40,000 five-story building to be located at Wilson.——The new Carpenter-Davis Hospital, Statesville, was opened, January 9, by Drs. Forest A. Carpenter and James W Davis, Statesville

County Health Work.—At present twenty-two counties, which include 38 per cent. of the population of the state, have provided for whole-time health officers. Of these fourteen have county health departments conducted in cooperation with the state board of health, and in addition to these, Bertie, Vance, Beaufort, Union and Harnett counties have made appropriations and asked for cooperation from the state board of health. There are also eight counties with whole-time health officers or health departments conducted independently and without cooperation or coordination with the state board of health.

OHIO

County Health Board Activities.—Seventeen of the eighty-eight counties of the state have already filed health budgets with the state department of health. Eight of these districts have reported the appointment of health commissioners and have the new health machinery in operation under the Griswold laws.

Hospital Items.—The erection of a new state hospital for the insane to be located on a farm of 1,000 acres in northeast Ohio, and the sale of the present Cleveland State Hospital, have been recommended by the state board of administration to the governor.——Bids for the erection of a municipal hospital in Youngstown have been received by the municipal hospital commission.

Personal.—Dr. Roy L. Pierce, Mount Gilead, has been selected health commissioner of Morrow County.——Dr. Fred W. Upson, Conneaut, was operated on for intestinal obstruction at Mount Sinai Hospital, Cleveland, January 17.——Dr. John A. Burnett, Hamilton, has been appointed physician for the public schools of Hamilton.——Dr. J. Milton O'Neal, New Concord, has been elected health commissioner for Muskingum County.

Summer Course in Medicine.—The school of medicine of Western Reserve University has announced that it will institute for graduates a summer course in medicine. A two months' course will be given in medicine and surgery. The facilities of the medical school, of Lakeside, St. Vincent's, City and Mount Sinai hospitals will be utilized, the latter by special arrangement. The courses have been planned to occupy all of the time of those in attendance, and will be largely clinical in character.

Emerson Addresses Academy.—Dr. Haven Emerson, New York City, who is conducting a survey of hospital facilities in Cleveland for the hospital council, delivered an address at the meeting of the Cleveland Academy of Medicine, January 16, on "The Cleveland Hospital and Health Survey —Its Object and Scope." The report of the special committee recommending the employment of a full-time executive secretary for the academy with an increase in the scope of activities of the organization was presented by Dr. George E. Follansbee, Cleveland.

Fighting Trachoma.—By recent action of the general assembly, the state department of health has been provided with funds to support an extended campaign against trachoma. The work will be done in cooperation with the U. S. Public Health Service and local health authorities. The tentative program calls for a series of intensive campaigns in individual counties, rather than for a general effort in all sections at once. Clinics will be established, schoolchildren will be examined and treated if necessary and educational measures will be undertaken.

Cincinnati

List Goes to Minneapolis.—Dr. Walter E. List, assistant superintendent of the Cincinnati General Hospital resigned, December 22, to accept the superintendency of Minneapolis City hospitals. He left for his new position, January 15.

New Officers.—At the annual meeting of the Cincinnati Academy of Medicine, January 5, the following officers were elected: president, Dr. H. Kennon Dunham; vice presidents, Dr. Arthur L. Knight and Clement C. Fihe; secretary, Dr. Otto J. Seibert; treasurer, Dr. Alex G. Drury.

Provision for Medical Journal.—Provision for the establishment of a journal for the medical department of the University of Cincinnati was made by the will of Dr. Christian R. Holmes, which sets aside a fund of $25,000 for this purpose, payable to the trustees of the university in annual instalments of $5,000. If the publication of the journal is not commenced within a year of Dr. Holmes' death the bequest is void.

Fund for Medical Research.—As a permanent memorial of Dr. Christian R. Holmes, his friends have inaugurated plans to raise a fund of $1,000,000 for medical research, the endowment to be known as the Christian R. Holmes Medical Research Fund.——The Carnegie Corporation has made a gift of $250,000 to the medical college of the University of Cincinnati, as a tribute to Dr. Holmes' services to humanity and to endow a chair in his memory.

PENNSYLVANIA

Personal.—Dr. Robert B. Mackey, Waverly, has been commissioned major, M. C., Pa. N. G., and assigned to duty with the Thirteenth Infantry.——The commission of Capt. Robert F. Trainer, M. C., Pa. N. G., Williamsport, expired, Dec. 19, 1919.

Public Health Nurses Organize.—At a meeting of the public health nurses at the state dispensary, Williamsport, January 5, organization was effected of the Public Health Nursing Association, whose membership includes the state nurses located in the city, the nurses from the various industrial plants, the school nurses and others.

Influenza in the State.—Director Charles W. Sheldon, Tioga, district supervisor and medical director of the state department of health, reports a total of 1,500 cases in Williamsport and outlying districts. The death rate has been small, but an appeal for nurses has been sent to Harrisburg. ——In Scranton, thirty cases of influenza and one death were reported, January 29.——More than sixty cases of influenza, with several deaths, have been reported at York.

Society Meeting.—The ninety-fifth annual meeting of the Franklin County Medical Society was held in Chambersburg, January 20, and the following officers were elected: president, Dr. Joseph P. Maclay, Chambersburg; vice presidents, Drs. Samuel B. Thomas, Waynesboro, and William E. Holland, Fayetteville; secretary, Dr. John J. Coffman, Scotland (reelected); assistant secretary, Dr. Samuel D. Shull, Chambersburg, and treasurer, Dr. Frank N. Emmert, Chambersburg.

Philadelphia

Personal.—Dr. J. Blair Spencer, lieutenant in the naval reserve force during the war, has been appointed chief physician in the bureau of charities and correction in the department of welfare.——Dr. Henry N. Speer has been commissioned first lieutenant, M. C., Pennsylvania Reserve Militia, and assigned to duty with the First Infantry.

Health Clown Lectures.—Cho-Cho, the health clown who entertained Philadelphia schoolchildren several months ago with health talks, gave four lectures in the city, January 28 and 29, under the auspices of the Woman's Medical College of Pennsylvania. These were arranged to give the students and nurses an opportunity to study his methods.

Influenza.—While there is no fear of a grip epidemic, every precaution is being taken. One hundred and six new cases of mild influenza were reported, January 29. Since

the beginning of the year there have been only twenty-three deaths from pneumonia. Of the forty patients at the Philadelphia Hospital, many were discharged as convalescents, January 29, and only four new cases brought in. Of the deaths since the first of the year, two occurred during the week ending January 2; two in the week ending January 9; five in the week ending January 16; three in the week ending January 23, and eleven in the week ending January 30. There has been a slight drop in the number of daily cases reported.

RHODE ISLAND

Health Officer Reelected.—Dr. Charles V. Chapin, who has served the city of Providence for thirty-six years has been reelected superintendent of health for a three-year term.

New Officers.—At the annual meeting of the Kent County Medical Society, December 4, Dr. Frank B. Smith, Washington, was elected president and treasurer; Dr. Benjamin F. Tefft, Jr., Anthony, vice president, and Dr. J. Fulgence Archambault, Arctic, secretary.

Society Honors Associate.—The Kent County Medical Society gave a reception and banquet, December 4, in honor of Lieut. Philip C. Means, Apponaug, who recently was discharged from the military service, and is about to move to California. Dr. H. Barton Bryer, Natick, presided as toastmaster.

Physician Surrenders for Jail Term.—Dr. Frederick O. Balcom, Providence, convicted in the United States District Court in November, 1918, of violation of the espionage act, surrendered, December 2, to the United States marshal and was taken to the Providence County Jail to serve a sentence of one year. It is said the violation consisted in speaking privately against the sale of Liberty Bonds and the enforcement of the draft act.

Low Death Rate.—Figures recently published show that the death rate in Providence in 1919 was 13.22 per thousand. Notwithstanding the fact that there were in the early part of the year, 230 deaths from influenza and quite an excess from pneumonia, the death rate for the year was considerably lower than that of any year since registration began in 1856. Nearly every cause except diphtheria, cancer and Bright's disease showed a decrease. The death rate from pulmonary tuberculosis was the lowest ever recorded and that for pneumonia the lowest since 1877. The deaths from summer diarrhea and other causes of infant mortality were far lower than ever before. Typhoid fever caused only nine deaths.

WISCONSIN

Personal.—Dr. Otto A. Fiedler, Sheboygan, has been reappointed a member of the state board of health.——Dr. John B. MacLaren, Appleton, has been appointed a member of the federal committee on sanitation of the Wisconsin Industrial Commission.

State Health Board Meeting.—At the annual meeting of the state board of health in Madison, January 20, the following officers were reelected: president, Dr. William F. Whyte, Madison; secretary and state health officer, Dr. Cornelius A. Harper, Madison; assistant secretary, L. W. Hutchcroft, Madison; and the appointment of Dr. Frank F. Bowman, Madison, as deputy state health officer for the Southern Wisconsin District was confirmed.

New Officers.—At the annual meeting of the Brown-Kewaunee County Medical Society held at Green Bay, January 7, Dr. William E. Fairfield was elected president, Dr. Henry P. Rhode, vice president, and Dr. Arthur J. McCarey, secretary-treasurer, all of Green Bay.——Milwaukee County Medical Society at its annual meeting, January 13, elected the following officers: president, Dr. Alfred W. Gray, Milwaukee; vice presidents, Drs. Wilbur L. LeCron, Milwaukee, and Charles A. Fidler; secretary, Dr. Oscar S. Lotz, Milwaukee, and treasurer, Dr. Joseph P. McMahon, Milwaukee.

Physician Not Fined.—Dr. Francis W. Starr, Stanley, who was chronicled in THE JOURNAL, January 3, as having been fined $25 for having broken the rules of the state board of health regarding public funerals over remains of persons dying from contagious disease, writes that he was not fined; that an overzealous district health officer had him arrested on a technicality; that he pleaded guilty and the court did not see fit to fine him; furthermore, that the court was so thoroughly convinced that the arrest was unwarranted that it did not impose court costs; that the district attorney asked that no costs be assessed on his account, and finally that the county sheriff put in no claim for costs.

CANADA

Personal.—Dr. Frederick E. Watts, Toronto, has returned from overseas and resumed the practice of surgery.——Col. David W. McPherson, Toronto, commanding the Ontario Military Hospital, England, has returned to Toronto.

University News.—The county of Middlesex, in which is situated the city of London, is being asked by the Western University, London, Ont., for financial assistance. Somewhere between $60,000 and $80,000 is expected and will be applied to either the arts building or for dormitories.

Hospital News.—The city hospital governors of Hamilton and St. Catherines, Ont., will ask the Ontario government to increase their governmental grant from 7 cents a day for children and 30 cents a day for adults to 30 and 75 cents, respectively. It costs on an average $2.87 a day per patient to run these hospitals.——Representatives of all hospitals in Ontario receiving government grants met in Toronto the past week, the object being to seek increased grants from municipalities and the government. They will endeavor to secure a sliding scale of grants which will go up or down as the cost of maintenance rises or falls.

GENERAL

New Academy Officers.—At the annual meeting of the Sioux Valley Eye and Ear Academy held in Sioux City, January 20, the following officers were elected: president, Dr. James E. Reeder, Sioux City, Iowa; vice president, Dr. Frank I. Putman, Sioux Falls, S. D., and secretary-treasurer, Dr Lorenzo N Grosvenor, Huron, S D.

Mortality in 1918.—According to the mortality statistics of the census bureau for 1918, issued February 2, the death rate in the United States for that year was the highest on record, showing 1,471,367 deaths for the year, representing a rate of 18 per thousand population in the registration area with an estimated population of 81,868,104. Of the total deaths, 477,467, or more than 32 per cent., were due to influenza and pneumonia.

Red Cross Bureau of Disaster Preparedness.—This bureau was created by the American Red Cross for the purpose of mobilizing the resources of community, state and nation, for immediate relief in the event of disaster. The record of one disaster a month for every month of fourteen years makes preparedness an imperative need. A loose leaf disaster relief guide book is being issued, and plans have been outlined for instituting a vigorous campaign for disaster preparedness in every locality, so that when an emergency comes the Red Cross will be ready on the instant to meet the situation.

American Red Cross Special Reserve Fund.—At a meeting, held Nov. 19, 1919, the executive committee of the American Red Cross voted to set apart from the securities donated to the Red Cross war fund a sum representing $10,000,000 in market value of those securities on this date as a special reserve, subject to such reinvestment as may be determined by the executive committee from time to time, and the income from which shall be available for the general purposes of the Red Cross. The principal sum is to be maintained always up to the full amount of $10,000,000, and it is not to be drawn on except to meet an emergency for which the other resources of the Red Cross at the time are inadequate.

Personal.—It is reported that Dr. William H. Kingston, Hogansburg, N. Y., and Joseph N. Meddill, Jaroso, Colo., who have been working with the American Red Cross in Siberia, were captured by bolshevists, January 25.——Drs. George C. Shattuck, Boston, chief medical secretary and Thomas R. Brown, Baltimore, chief of medical information and medical publication of the League of Red Cross Societies, have gone to Geneva.——Dr. Edouard Rist, physician in chief of the department of tuberculosis at the Laennec Hospital, Paris, has been appointed chief of the division of tuberculosis of the League of Red Cross Societies.——Lieut.-Com. Joel T. Boone, M. C., U. S. Navy, has been assigned to duty as director of the bureau of naval affairs at headquarters of the American Red Cross.

Fraternity Election.—At the annual convention of the Phi Delta Epsilon fraternity which has twenty-five chapters among class "A" medical schools, held in Philadelphia, the following officers were elected: grand consul, Dr. Nathan

Blumberg, Philadelphia; deputy grand consul, Dr. David W. Kramer, Philadelphia; vice grand consuls, Drs. Leo. S. Schwartz, New York City, Frank M. Chesner, Philadelphia, Samuel Nadel, Boston, Jacob Greenberg, Baltimore, Louis Bothman, Chicago, and George Piness, Los Angeles; grand chancellor, Dr. Benjamin E. Spiegel, New York City; grand scribe, Dr. Monroe E. Greenberger, New York City; grand historian, Dr. Murray B. Gordon, New York City; grand marshall, Dr. August C. Schwenk, New York City, and editor, Dr. Aaron Brown, New York City.

Bequests and Donations.—The following bequests and donations have recently been announced:

Methodist Episcopal Hospital, Philadelphia, $25,000, the income of which is to be used in the establishment and maintenance of five free beds by the will of Thomas Bradley.

Georgia Medical Society $1,000 for the establishment of the William Mears Library Fund in memory of an ancestor who came from England to Savannah in 1735, by the will of Dr. J. Ewing Mears, Philadelphia.

Bryn Mawr, Pa., Hospital, $50,000, by the will of Mrs. A. J. Cassatt.

Home for Incurables, Philadelphia, $10,000; Methodist Hospital, Philadelphia, $5,000; Frankford, Pa., Hospital, $500, by the will of Marian L. Ellit.

Episcopal Hospital, Philadelphia, $1,000 by the will of Florence W. Holbrook.

Hospital for Crippled Children, Baltimore, $1,000 by the will of Mrs. Joseph L. Johnston.

Reinstatement of War Risk Insurance.—Announcement is made by Director R. G. Cholmeley-Jones of the Bureau of War Risk Insurance that the provisions still apply for reinstatement of lapsed or canceled insurance, within eighteen months from date of discharge, on payment of only two months' premiums provided the insured is in as good health as at the date of discharge or expiration of the grace period, whichever is the later date, and so states in his application. The provision that discharged service men are permitted to reinstate at any time within three calendar months following the month of discharge by merely paying the two months' premiums, without making a formal application or a statement as to health is also still in force. The provisions for reinstatement do not protect a man until he actually reinstates. If he waits, he may not be in as good health as he was at the time of discharge and consequently may not be able to secure reinstatement.

Appropriation for National Research Council.—The Carnegie Corporation of New York has announced its purpose of giving $5,000,000 for the use of the National Academy of Science, and the National Research Council. It is understood that a portion of the money will be used to erect in Washington a suitable home for the two beneficiary organizations, and that the remainder will be placed in the hands of the academy to be used as a permanent endowment for the council. The council was organized in 1916, as a measure of national preparedness and during the war its efforts were confined chiefly to assist the government in the solution of pressing war-time problems which involved scientific investigations. Since the war it has attempted to stimulate and promote scientific research in agriculture, medicine, industry and in every field of pure science. The council is based on forty of the great scientific and engineering societies of the country which elect delegates to its constituent divisions.

Appropriation to Public Health Service.—Congress has met the urgent need for additional hospital accommodation and equipment in the Public Health Service by appropriating $4,000,000 available for immediate use. These funds will be used in hospitals occupied by war risk insurance patients. An additional $500,000 is appropriated for expenditure at government hospitals located as follows:

Deming, New Mexico	$20 000
Alexandria, La.	25,000
Houston, Texas	10,000
Perryville, Maryland	75,000
Greenville, S. C.	75,000
Cape May, N. J.	10,000
Hoboken, N. J.	10,000
Dansville, N. Y.	10,000
St. Louis, Mo.	5,000
New Haven, Conn.	25,000
West Roxbury, Mass.	50,000
Helena, Mont.	100,000
Boise, Idaho	75,000
East Norfolk, Mass.	10,000

The sum of $15,000 is provided for the propagation and sale of viruses, toxins and analogous products. This same appropriation bill forbids the Public Health Service to use any of its funds for advertising in newspapers or magazines hereafter.

FOREIGN

New Year Honors.—The list of British new year honors includes the elevation of Sir Bertrand Dawson, physician-in-ordinary to the king and dean of the medical faculty of the University of London, to a peerage.

Defective Children in England.—The chief medical officer of the board of education reported that of 533,400 children outside of London physically examined in 1918, 259,000, or 48.5 per cent., were found to be defective.

Physicians in Egypt Raise Their Fees.—The *Presse médicale d'Egypte* is a fortnightly journal published at Cairo, now in its eleventh year. A recent issue states that the physicians of Cairo recently voted at a meeting, called by Dr. Comanchos Pacha, to advance the fees to twice that of the figure before the war. About sixty physicians attended, and the resolution stated that the time had come for physicians in Cairo to follow the example in this respect of their confrères in Alexandria and in Europe.

Italian Orthopedics Congress.—Our Italian exchanges mention that the X Congresso di Ortopedia was held recently at the Rizzoli Orthopedic Institute at Bologna, and great interest was aroused by Albee's description of his bone-grafting operation in Pott's disease, with demonstration. The main themes appointed for discussion were prostheses and treatment of pseudarthrosis, introduced by Dalla Vedova and Palagi. Prof. V. Putti presided at the meeting, and Francioni delivered an address on the morphologic evolution of the human organism during the first years of life.

Health Congress in Brussels.—The Royal Institute of Public Health announces that it will hold a congress in Brussels from May 20 to 24, inclusive, under the patronage of the king of the Belgians. The council has invited delegates from the British universities, municipal corporations, and other bodies interested in public health, and has taken steps through the British division of the American University Union in Europe to extend a like invitation to the universities, municipal corporations and public health associations of the United States.

Typhus Fever.—To aid in combating the serious outbreak of typhus fever in Esthonia, where 15,000 cases have been reported, Col. Edward J. Ryan of the American Red Cross has obtained the services of twenty physicians of the French health service for a period of two months.——Typhus fever is reported to be making increased ravages in eastern Galicia, where it is said there are more than 100,000 cases of the disease, with a mortality of about 10 per cent.——The Swedish consul at Reval reports that there are 4,600 cases of typhus fever among Russian soldiers at Narva, 3,500 cases at Wesenberg, and 2,000 cases at Ziegelkoppel.

Medical Congress in Palestine.—The *Nederlandsch Tijdschrift* relates that the first large conference of the Jewish physicians in Palestine was held recently at Jaffa. Out of the seventy Jewish physicians in the country, forty were in attendance. The medical problems of Palestine were the main topics for discussion. The meeting was presided over by Dr. Mase of Jerusalem, and Dr. Puchowsky delivered the opening address. A resolution was adopted urging the necessity for nationalization of the medical service, and a committee of five was appointed, including Drs. Beham, Goldberg and Norman, to collect data and outline plans. A greeting was sent by telegram to Dr. Max Nordau, who was elected an honorary member of the Palestine Medical Association.

Near East Relief.—The Near East Relief is a body incorporated by act of Congress to provide relief and to assist in the repatriation, rehabilitation and reestablishment of suffering and dependent people of the Near East and vicinity, to provide for the care of orphans and widows, and to promote the social, economic and industrial welfare of those who have been rendered destitute or dependent by the vicissitudes of war. At present 168 orphanages are being operated in Armenia by this organization, and there are more than 82,000 workers in the industrial establishment. About 500 workers are now in the field, including 26 physicians, 76 nurses, 7 mechanics, 15 industrial experts, 16 agriculturists, 197 relief workers, 19 teachers, 34 secretaries, 7 engineers and 45 army officers. The principal centers of activities are Aintab, Adana, Konia, Smyrna, Marsivan, and Samaun, in Asia Minor; Aleppo and Beirut in Syria; Jerusalem in Palestine; Bagdad and Moussoul in Mesopotamia; Erivan, Batum, Tiflis, Alexandropol and Baku in the Caucasus; Tabriez and Teheran in Persia, and Constantinople in Turkey.

Government Services

Disease Conditions in the Army

During the week ending January 23, influenza and pneumonia prevailed to some extent in nearly all the camps and stations in the United States. In most of the camps the epidemic had reached its peak and was beginning to decline. Among the American forces in Germany, influenza and measles continue to be reported, but there also the number of deaths from pneumonia shows a marked decrease. Conditions in the American forces in Siberia are reported excellent.

Increased Pay Under New Army Bill

Medical officers of the Army, Navy and Public Health Service are given a 10 per cent. annual increase in the Army-Navy Pay Bill which is being urged for passage in the Senate by Chairman Wadsworth of the Senate Committee on Military Affairs. The bill gives a 20 per cent. increase to members of the female Nurse Corps of the Army and Navy. The bill also contains a special provision whereby the federal government furnishes transportation for the wife, children and dependents of officers when ordered to make a permanent change of station. Heretofore it has always been the custom to furnish transportation to officers and enlisted men but not to their families.

Foreign Correspondence

LONDON

Jan. 10, 1920.

Notification of Epitheliomatous and Chrome Ulceration

A physician attending a patient whom he believes to be suffering from poisoning by lead, phosphorus, arsenic or mercury, or anthrax, or toxic jaundice, contracted in a factory or workshop, is already required to notify the case to the chief inspector of factories. An order has now been made extending the obligation to (*a*) epitheliomatous ulceration due to tar, pitch, bitumen, crude oil, paraffin, or any compound, product or residue of these substances, and to (*b*) chrome ulceration, due to chromic acid or ammonium, sodium or potassium bichromate or any preparation of these substances, occurring in a factory or workshop. The following explanatory statement is added by the factory department of the Home Office (the department of the government which deals with home affairs):

1. Epitheliomatous Ulceration: In general ulceration of the skin, this term is used to define a raw surface forming on the skin, which in industrial employment is not infrequently set up by the substances handled. Under appropriate treatment, at no matter what age, such ulceration usually heals quickly and, should it recur, will again heal with rest and treatment. In the case of those handling the substances named, however, especially when over 35 years of age and having worked for about ten years or more in operations exposing them to dust or liquids, the ulceration may not heal but spread over the skin and extend downward. This form of ulceration occurs with relative frequency on the scrotum. It is then to be regarded as epitheliomatous and to be notified. The only treatment is operation, which should be performed as early as possible.

2. Chrome Ulceration: If chrome compounds and their solutions remain in contact with the broken skin (and sometimes, with a very sensitive skin, in the absence of an obvious broken surface), they give rise to either a general eczematous ulceration or a circumscribed ulcer known as a "chrome hole." Both these conditions when definitely ulcerative are reportable. Recurring attacks of epitheliomatous and of chrome ulceration should be reported when they appear in a fresh place.

Conflict Between the Friendly Societies and the British Medical Association in Australia

A struggle has been going on for many years between the friendly societies of Victoria and the physicians. The conditions under which lodge physicians worked were considered unsatisfactory, particularly as to remuneration, which averaged yearly per member (including wife and children) about $3.25, and sometimes was as low as $1.50. There was no income limit, and some of the richest men availed themselves of this low rate. To ameliorate these conditions, the profession organized until more than 90 per cent. became members of the Victoria branch of the British Medical Association. In December, 1913, a conference was held between the physicians and lodge representatives, and in July, 1914, another conference at which a subcommittee was chosen; but war broke out, and the matter was postponed. In March, 1917, the matter was revived, and various conferences were held without reaching any agreement. The lodge physicians, therefore, to the number of 98 per cent., tendered resignations taking effect from Jan. 31, 1918. During this year various efforts were made by the state government to effect a settlement on behalf of the Friendly Societies Association by proposals of arbitration. But the council of the British Medical Association contended that the rate to which they agreed—$5 in the town and $6.25 in the country—was a concession to the less remunerated classes, and that the physicians themselves were the only persons to decide what the concession should be and to whom it should be granted. Consequently the council refused all proposals to arbitrate, in spite of threats of the state parliament. The parliament appointed a royal commissioner to investigate the dispute. In his finding he granted virtually all that the physicians had asked. Both sides offered to accept this finding, but the council insisted that the medical institutes, which had been established since the resignations had been submitted in order to supply medical attendance, should be abolished. This the friendly societies refused on the grounds that it would be an interference with their legal rights to establish institutes and that their members are bound by legal agreement to support the institutes for three years. Thus a deadlock was reached. The medical attendance furnished by the institutes does not appear to be satisfactory to the societies. Nineteen have recently agreed to turn down the institutes and to accept only British Medical Association physicians for their medical officers. The societies have requested parliament to appoint whole-time state health officers to whose duties shall be added attendance on friendly society members. They have also resolved to send a representative to England to secure 100 physicians to act as medical officers with a tempting offer of $5,000 a year, with extras for midwifery and surgery. The council has written to the *British Medical Journal* asking it to assist them in preventing an influx of physicians from England. The *Journal* has responded by an article to this effect.

PARIS

Dec. 31, 1919.

Personal

The Académie de médecine has recently reorganized its bureau. Following the usual custom, Professor Laveran, formerly vice president, has assumed the duties of president for the year 1920. Dr. L. G. Richelot, hospital surgeon and agrégé professor of the Faculté de médecine of Paris, was chosen vice president for the year 1920, and Dr. Achard, also of the Faculté de medicine of Paris, was elected secretary for the year.

Dr. F. Lejars, professor of clinical surgery of the Faculté de médecine of Paris, has been elected president of the Société de chirurgie for the year 1920.

The Next International Conference of the Red Cross

The International Committee of the Red Cross has settled on Sept. 1, 1920, as the date for opening the tenth international conference of the Red Cross, which will hold its meetings in Geneva. It is planned to have a ten day conference. Among the subjects that will be brought up for discussion are: the experience gained during the late war; the mutual relationship of the Red Cross societies, and the extended development of the Red Cross societies in their peace and war activities. An executive committee has been put in charge of the preparations for the conference.

The Antagonism Between Epinephrin and Quinin

Drs. A. Clerc and G. Pezzi recently communicated to the Académie des sciences the results of their researches, which go to prove that there is an antagonism between the action of quinin and that of epinephrin, but that nevertheless there is no absolute opposition in the different modes of action of the two substances. There is complete antagonism in the cells of the bulbar center of the pneumogastric nerve, for epinephrin stimulates and quinin paralyzes this nerve. There is also antagonism with respect to cardiac action, epinephrin

having a stimulating and accelerative effect and quinin acting as an inhibitor and depressant. There is even antagonism in regard to arterial pressure: epinephrin produces hypertension and quinin hypotension. But epinephrin causes hypertension by a cardiac and vascular action combined, whereas quinin produces hypotension by overcoming the vasoconstrictive action common to the two substances, although in a different degree.

Even allowing for the vasoconstrictive mode of action which is common to the two substances, the antagonism between them is nevertheless noteworthy. While epinephrin acts as a stimulant of the sympathetic nervous system, quinin must be accorded a sedative action, which makes possible new therapeutic applications.

The Reorganized Strasbourg Faculty of Medicine

In a previous letter (THE JOURNAL, Nov. 8, 1919, p. 1456), I gave some general information concerning the University of Strasbourg. I can now add a list of the names of those who have been appointed on the new medical faculty:

Professor of embryology, Dr. Ancel (of the Faculté de médecine of Nancy); professor of histology, Dr. Bouin (of the Faculté de médecine of Nancy); professor of pathologic anatomy, Dr. Masson (of the Institut Pasteur of Paris); professor of biophysics, Dr. G. Weiss (of the Faculté de médecine of Paris); professor of physiologic chemistry, Dr. Nicloux (of the Faculté de médecine of Paris); professor of pharmacology and experimental medicine, Dr. Ambard (of the Faculté de médecine of Paris); professor of clinical surgery, Dr. Sencert (of the Faculté de médecine of Nancy); professor of clinical dermatology, Dr. Pautrier; professor of neurology, Dr. Barré; professor of otorhinolaryngology, Dr. Baldenweck; professor of clinical ophthalmology, Dr. Duverger (of the Ecole de médecine of Limoges); professor of legal medicine, Dr. Chavigny (of the Ecole d'application de médecine et de pharmacie militaires du Val-de-Grâce); professor of anatomy, Dr. Forster (formerly privat-docent of the Faculté de médecine of Strasbourg); professor of clinical medicine, Dr. L. Bard (of the Faculté de médecine of Geneva); professor of clinical medicine, Dr. Blum (formerly privat-docent of the Faculté de médecine of Strasbourg); professor of clinical surgery, Dr. Stolz (formerly privat-docent of the Faculté de médecine of Strasmourg); professor of clinical psychiatry, Dr. Pfersdorff (of the Faculté de médecine of Strasbourg); professor of gynecology and obstetrics, Dr. Schickele (formerly privat-docent of the Faculté de médecine of Strasbourg); professor of hygiene and bacteriology, Dr. Borrel (of the Institut Pasteur of Paris).

Apartments for Large Families

The municipal council of Paris has recently asked the administration to take up with the national government and with the Sociétés d'habitations à bon marché the question of according certain special privileges to families having more than four children; namely, the right of priority in the matter of securing low-priced apartments, and a reduction in rent in proportion to the number of children, it being understood that the national government, the department or the commune is to bear the burden of such reduction.

LIMA

Dec. 31, 1919.

Sanitary Victory

The yellow fever epidemic which began about the middle of this year, in the northern part of Peru, has just been officially declared as having come to an end. An active sanitary campaign directed at first by Mr. H. Hanson and afterward by Drs. Gastiaburú, Quirós and Almenara deserves the credit for its eradication. Some interesting studies have been made about *Leptospira icteroides*, which may throw new light on the etiology of this disease. Cultures of *Leptospira icteroides* have been made at the hygienic laboratory of Lima. The number of cases during the epidemic amounted to more than 200, with a mortality rate of 40 per cent.

Infant Welfare

There has been organized during this month the Sociedad protectora de la Infancia, under the presidency of Mr. Miguel Echenique, a well-known philanthropist, and Dr. Rodolfo Neuhaus, a pediatrician. In order to secure public support there was organized a "child and flower day" which produced several thousand soles (a sol is about half a dollar). This will be employed to install the association headquarters in addition to an office of public assistance for children. People interested in this society can obtain further data from the secretary, Lima, Peru, Apartado 987.

University Changes

During the whole second semester of this year there has taken place a true university revolution caused by the desire of the students to introduce reforms in the methods of teaching. This conflict has become so serious in the School of Medicine that it was necessary to discontinue the classes during the present year with the natural loss to those coming up for examination. As a result of the support rendered by the government to the justified demands of the students, there have been changes affecting about one third of the personnel. Among the new professors in the School of Medicine are included Drs. Anibal Corvetto, Edmundo Escomel, Constantino Carvallo, Jr., Carlos Monge, Carlos Morales Macedo, Enrique León García, and Carlos Enrique Paz Soldan. In addition, the students will be represented directly in the directing council of the university, having elected as their representatives Drs. Enrique Paz Soldán and José Antonio Encinas.

Important Visit

Active preparations are being made to welcome Dr. W. J. Mayo and his associates. The Society of Surgery and the Faculty of Medicine have appointed commissions to receive them and attend to their comfort. This visit will be very important from the standpoint of better scientific relations between North and South America.

LIÉGE

Dec. 15, 1919.

The Technic of Appendectomy

Referring to the various objections that can be made to the numerous incisions proposed for appendectomy, and especially to the Jalaguier and the Lennander incision, R. Danis described at the recent meeting of the Société belge de chirurgie certain recent modifications of the McBurney incision, with a view to securing more solid and less visible cicatrization, and, at the same time, more constantly direct access to the appendix, no matter what its position may be. He discussed in detail the question of the direction and the localization of the skin incision.

The end of the appendix is located on a line drawn from the right iliac spine to the left pubic spine, at a point about 3 cm. external to the former. An incision made at the level of this line gives regular access to the cecum. Whether the meso-appendix is long or short, the cecum can easily be made to appear in the wound, and the appendix will always be in the field if its position is normal (laterocecal or retrocecal), the base appearing first, at the moment the head of the cecum is drawn up through the wound.

The author made the following remarks in connection with the location of the incision: The vertical incision comes in contact with a great many nerve fibers, for example, the ends of the lower dorsal nerves, which are directed obliquely downward and inward, and thus produces a large area of anesthesia between the cicatrix and the median line, which lasts for several months and causes the patient great discomfort. The more obliquely the incision is made, the less extended the area of anesthesia becomes. Danis gave an illustration of the good effects of rotating the incision by referring to a cardboard, which, when held perpendicularly to the rays of light, casts a broad shadow, but as it is held less and less perpendicularly the shadow grows smaller and smaller until it becomes a mere line. The suppression of the anesthetic shadow, that is to say, the gradual decrease of the zone of anesthesia, is the indication for the direction of the incision. In short, the author advises a very oblique incision, inclined toward the horizontal, and located much lower than the McBurney incision.

The Treatment of Pleural Suppurations

At the same meeting of the Société belge de chirurgie, Janssen reported the good results that he had secured in cases of chronic pleural suppuration by pleurectomy, either with or without thoracectomy. He communicated seven interesting observations, and drew the conclusion that every pleural suppuration of from two to three months' standing requires an operation. Fistulous sequelae, he finds, relate back to various causes: (1) an osteitis of the ribs; (2) the persistence of pleural or pulmonary projectiles, or (3) a pus pouch formed by the pleura itself. In decortication of the lung, the author adopts the technic recommended by

Delorme. He has found it to give perfect end-results. Pulmonary function is restored to almost its normal value. Roentgenography is sometimes serviceable in order to determine before the operation the factors on which a good functional result may be based, namely, as to how far advanced the sclerosis of the lung is; what the thickness of the encapsulating membrane may be, and what the prospects are for an easy removal. The general principles that should guide the operator during the course of intervention are as follows: 1. Any adhesions that bind down the lung, and also the parietal layer of the pleura should be completely removed—a total pleurectomy. 2. Intervention should be by a route that will cause the least possible mutilation: resection of one or two ribs, the trap-door incision as recommended by Delorme. 3. Account should be taken as to whether the pulmonary sclerosis is too far advanced. If such is the case, in addition to the pleurectomy a more or less extended resection of the chest wall should be done. 4. At the end of the operation, the thoracic cavity should be closed by a tight suture, only one drain being left to assure irreversible drainage, that is to say, allowing fluids from within to pass out but preventing the entrance of air into the thoracic cavity. As for postoperative treatment, drainage should not be kept up longer than is necessary, and early active mobilization of the lung should be carried out, the patient being required to take breathing exercises on the second or third day after surgical intervention.

The Venereal Peril

As in all countries that took part in the war, the enormous increase in venereal disease is causing considerable anxiety in Belgium. On account of the spread of syphilis, more especially, the Société médico-chirurgicale du Brabant has addressed a communication to the department of hygiene with a view to realizing three desiderata: 1. An increase in the number of laboratories placed gratuitously at the disposal of the medical corps, for example, the location of a laboratory in each canton for the purpose of carrying on, in aid of physicians, such researches as should prove indispensable for the correct treatment of syphilis. The laboratries might later extend their field of activity so as to include gonorrhea, tuberculosis and all diseases caused by microorganisms, and thus become valuable scientific centers accessible to all practicing physicians. In this way they would contribute much toward raising the standard of medical efficiency and would inure to the advantage of public health in general. 2. The appointment of syphilologists to be placed at the disposal of the physicians of each canton for such time as should be deemed necessary, with a view to having these specialists examine into and elucidate the difficult cases, in order that the local physicians might gain a thorough knowledge of modern therapeutics as applied to venereal disease. 3. The gratuitous distribution to physicians for the use of patients in straitened circumstances of all specific remedies needed for the treatment of venereal disease on the sole condition that twice a year they should send in a statistical report of the patients treated.

The society also passed a resolution to the effect that a law should be drafted prohibiting the publication in other than scientific journals of advertisements dealing with venereal diseases.

The Etiology of Arthritis

At the meeting of the Société belge de biologie, Cohen introduced an interesting communication on the subject of the pathogenic agent in arthritis. In the blood of a patient afflicted with a very severe type of arthritis to which he succumbed shortly afterward, he found, in 1916, a diplococcus resembling a gonococcus and a meningococcus but differentiating itself from these by the fact that it grew exclusively on a blood medium. In the complement-fixation test the blood serum of this patient was strougly positive for this microbe, and also for the gonococcus and certain meningococci. This microbe has not been found since in the latest researches bearing on the blood of rheumatic patients; but in twenty-eight cases of arthritis presenting no acute or recent gonococcic infection he found that the blood serum of twelve patients was strongly positive for this microbe, the gonococcus and certain meningococci.

Industrial Diseases Among Coal Miners

At a recent meeting of the Académie royale de médecine, Herman presented an important communication on the subject of an industrial disease that it has been decided to call "maladie du brai," or pitch disease. Among workmen engaged in the manufacture of coal dust briquets, for which pitch is used as a binding material, certain cutaneous and ocular symptoms have been discovered that are sufficiently characteristic to give to the disease a definite industrial stamp. In such factories there is one place that is especially dangerous on account of the air being so heavily laden with dust. That is where the pitch is broken up, pulverized and mixed with the coal dust. In the room in which the malaxation of the "dough" takes place and where the briquets are molded and subsequent operations are performed, the workmen are not exposed to any danger, for here the work is done within closed vessels and with dampened material, so that the dust is thus kept down.

Prophylaxis of the affection must look toward the suppression of the dust, which can be accomplished only by substituting a machine method for the present hand method of breaking up the pitch and transporting it in wheelbarrows to the pulverizer. The best way would be to transfer the contents of the railway car to the mixer, raising as little dust as possible, from which point on the manufacture of coal dust products would be harmless. Keeping down the dust by means of fans and spraying does not seem practicable.

Until a radical solution is found, it behooves the individual workmen to take such precautions as they can: 1. Clothing should be worn that is tight fitting at the neck, the wrists and the ankles. Tight-fitting goggles might well be worn over the eyes, and protecting ointments might be used on the exposed portions of the body. 2. Daily shower baths and careful attention paid to the skin would help. 3. Workmen who have already been affected should be temporarily removed from the dust zone. 4. The work day, eight hours at the most, should be divided into two parts, with long enough time between to allow the workmen plenty of time to wash up thoroughly and get rested after their trying and wearisome toil.

Bayet, also, has been making a study of arsenical poisoning in coal miners. He finds that this is much more widespread than is commonly supposed. He has shown that this form of poisoning menaces and afflicts thousands of workmen that were not thought of as being exposed. This finding is all the more significant since the arsenic that is the cause of these accidents comes from a substance that is universally used—perhaps the most universally used of any substance in industrial labor—namely, coal. The workmen most exposed are those who handle tar and its derivatives, distillers of tar, tarrers of bolts and crossbars, workmen who manufacture tarred paper, lamp black, crayons and various composites; those who handle oils and greases, crude paraffin, asphalt and bitumen; those employed in coke furnaces and in gas plants, and, we may probably add, workmen engaged in the manufacture of anilin dyes. In this connection, we may take a retrospective look and recall the cancer found so frequently among the chimney sweeps in England when they used to climb down into the chimneys. This was a typical form of cancer, which in the light of present discoveries may be regarded as of arsenical origin. This special pathology of the coal industry, the symptoms of which were known although the etiology remained obscure (the coal poisoning of Manouvrier), may henceforth be classified among the industrial diseases against which we are thus forearmed. We owe it to the important studies of Bayet that this has been brought about.

These studies deserve to be brought to the attention of all those who are interested in social medicine. The difficulties that are encountered in every country when attempts are made to introduce prophylactic measures against epithelial cancer among workers in pitch are well known. In England, where, since 1910, the question has been carefully considered, the results obtained are still unsatisfactory, as may be seen by the increased incidence of epithelial cancer noted during the period from 1914 to 1918.

Marriages

GEORGE HERMAN ANDERSON, Seattle, to Miss Ruth Weisdorfer of Burlington, Kan., at Chicago, January 10.

PAUL WEGEFORTH, Coronado, Calif., to Mrs. Lillie Holbrook, at San Diego, Calif., January 19.

THURMAN GILLESPY, Wheeling, W. Va., to Elizabeth Pyatt Bonsted of Philadelphia, December 24.

HARRY JULIUS ISAACS to Miss Edith Lippert, both of Chicago, recently.

Deaths

B. Holly Smith, Baltimore; College of Physicians and Surgeons, Baltimore, 1883; aged 61; a graduate of the Baltimore College of Dental Surgery in 1881; president of the Faculty and professor of oral surgery in the Baltimore College of Dental Surgery; chairman of the oral hygiene council of Maryland; chairman of the executive council of the National Association of Dental Faculties; once president of the Baltimore Dental Club; an extensive contributor to the literature of oral surgery; died, January 22, from heart disease.

Lewis White Callan ✠ New York City; University of Pennsylvania, Philadelphia, 1901; aged 42; captain, M. C., U. S. Army, and in charge of the ophthalmic department of the base hospital at Fort McHenry, Md., and discharged, April 6, 1919; a member of the American Ophthalmological Society, and New York Academy of Medicine; ophthalmic surgeon to the New York Eye and Ear Infirmary, and St. Bartholomew's and Lying-In hospitals; died, January 21, from pneumonia.

John Donnington Bartlett ✠ Major, M. R. C., U. S. Army, Grass Range, Mont., formerly of Galesburg, Ill.; Rush Medical College, 1905; aged 39; at one time health officer of Galesburg; who became of unsound mind while serving with the Expeditionary Forces in France; was brought home, placed under treatment at U. S. General Hospital No. 28, Fort Sheridan, Ill., and then committed to the Watertown State Hospital; committed suicide by strangulation, January 12

Benjamin Pitcher Brodie ✠ San Francisco; Michigan College of Medicine, Detroit, 1884; aged 60; for many years a surgeon of Detroit; physician to St. Mary's Hospital; attending surgeon to Harper Hospital and Consulting surgeon to the Woman's and Solvay hospitals; chief surgeon of the Grand Trunk system, and Detroit United and Detroit Shore Line railways; died in the Southern Pacific Station, San Francisco, January 23.

George Brown Beach, Scranton, Pa.; Jefferson Medical College, 1886; aged 54; a member of the Medical Society of the State of Pennsylvania; captain, M. R. C., U. S. Army, with service in France, where he obtained the Croix de Guerre, and a citation from the commanding general, and was discharged, June 2, 1919; died in the West Side Hospital, Scranton, December 31, from meningitis.

Albert Woelfel ✠ Chicago; University of Leipzig, Germany, 1902; aged 48; for several years instructor in physiology, and for a time in charge of the physiological laboratory in the University of Chicago; managing director of the Physicians Radium Association of Chicago; died, January 31, from pneumonia following influenza.

Charles Shivers Heritage ✠ Glassboro, N. J.; University of Pennsylvania, Philadelphia, 1893; aged 48; president of the Gloucester County Medical Society in 1917; a specialist in diseases of the eye, ear, nose and throat; president of the Glassboro Loan and Building Association; died, January 4, from nephritis.

Luella M. Schneck, Indianapolis; Medical College of Indiana, Indianapolis, 1895; aged 52; a member of the Indiana State Medical Association; for five years a member of the staff of the Fletcher Sanitarium, and physician to the Indiana Girls' School, Clermont; died, January 21, from heart disease.

Norris Cameron, Indiana, Pa.; Jefferson Medical College, 1880; aged 63; formerly local surgeon of the Pennsylvania system, at Pitcairn, Pa.; burgess of Pitcairn from 1894 to 1897, from 1910 to 1913; for several years director and president of the First National Bank of Pitcairn; died, January 11.

Leander Erastus Maddox, Montpelier, Ind.; University of Michigan, Ann Arbor, 1875; aged 68; for several years a druggist; president, cashier and director of the First National Bank of Montpelier; at one time a member of the local school board; died, January 15, from valvular heart disease.

Curtis Elmer Kelso ✠ Lieut., M. R. C., U. S. Army, Thomasboro, Ill.; University of Illinois, Chicago, 1905; aged 38; on duty at Fort Oglethorpe, Ga.; died in the Post Hospital, Fort Oglethorpe, January 8, from narcotic poisoning.

Justin F. Simonds, Riverdale, Md.; Castleton (Vt.) Medical College, 1851; aged 93; a pioneer practitioner of Iowa; surgeon of United States Volunteers during the Civil War, and from 1902 to 1904 examiner in the United States Pension Bureau, Washington, D. C.; died, January 3.

Thomas Francis Conneen ✠ Portland, Me.; Bowdoin Medical School, Brunswick and Portland, Me., 1901; aged 45; city physician of Portland in 1907, and then appointed medical examiner (coroner) of Cumberland County; died, about January 22, from cerebral hemorrhage.

Alexander H. Koerner, Woodsfield, Ohio; University of Maryland, Baltimore, 1886; aged 61; a member of the Ohio State Medical Association; president of the Monroe County Medical Society; died in the State Hospital, Columbus, Ohio, January 6, from septicemia.

Albert Earl McCallin ✠ Wisconsin Veteran's Home, Wis.; Wisconsin College of Physicians and Surgeons, Milwaukee, 1906; aged 53; head surgeon at the Wisconsin Veteran's Home; died from thrombosis, January 17, after operation for duodenal ulcer.

Estes Paine ✠ Major, M. C., U. S. Army; University of Texas, Galveston, 1906; aged 39; formerly surgeon of the Norfolk and Western Railroad; at Bassetts, Va.; died in the Walter Reed General Hospital, Takoma Park, D. C., December 9.

Charles Milton Buchanan ✠ Tulalip, Wash.; National University, Washington, D. C., 1890; aged 51; a physician in the United States Indian Service and a worker among the Puget Sound Indians for twenty-four years; died in Seattle, January 18.

Robert Samuel Bentley ✠ Chicago; Northwestern University Medical School, Chicago, 1899; aged 44; a member of the Illinois State Medical Society; was shot and killed, January 27, by a patient, who claims that the shooting was accidental.

David S. McConnaughey, Wayland, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1867; aged 82; a veteran of the Civil War; president of the Henry County Medical Society in 1914; died, January 7, from senile debility.

Daniel Webster Hopkins, Havre de Grace, Md.; University of Maryland, Baltimore, 1877; aged 65; for several terms a member of the city council, and at the time of his death public health officer; died, January 16, from heart disease.

Charles Milton Lenhart, Zanesville, Ohio; Miami Medical College, Cincinnati, 1886; aged 56; a member of the Ohio State Medical Association; surgeon to the City and Good Samaritan hospitals, Zanesville; died, January 17.

Stanley Nelson Insley ✠ Grayling, Mich.; Trinity Medical College, Toronto, 1894; aged 49; president of the county society; division surgeon for the Michigan Central Railroad; died, January 7, from pernicious anemia.

Michael Washington Hurst, Talmage, Pa.; University of Pennsylvania, Philadelphia, 1861; aged 81; a member of the Medical Society of the State of Pennsylvania; died in the General Hospital, Lancaster, Pa., January 13.

Adam E. Focht, Great Bend, Kan.; Hahnemann Medical College, Chicago, 1885; St. Louis College of Physicians and Surgeons, 1896; aged 60; a member of the Kansas Medical Society; died, January 8, from heart disease.

Isaac C. Smith, Peel Tree, W. Va.; Kentucky School of Medicine, Louisville, 1876; aged 67; a member of the West Virginia State Medical Association; died from heart disease, January 15, while making a professional call.

Miles Clinton Bristol ✠ Bay City, Mich.; Long Island College Hospital, Brooklyn, 1894; aged 52; for two terms health officer of Bay City and coroner of Bay County; died, January 21, from carcinoma of the larynx.

John G Koch, Petersville, Pa.; Jefferson Medical College, 1865; aged 77; a member of the Medical Society of the State of Pennsylvania; died, January 8, from the effects of a fracture of the hip two weeks before.

Benjamin W. Cabell, Hampton, Va.; College of Physicians and Surgeons, Baltimore, 1891; aged 55; a member of the Medical Society of Virginia; died in the Dixie Hospital, Hampton, January 13, from nephritis.

Thomas J. Harcourt, Somerville, Ohio; American Eclectic Medical College, Cincinnati, 1889; aged 82; for more than fifty years a practitioner of Tusculum, Cincinnati; a veteran of the Civil War; died, January 15.

Henry A. Minor, Macon, Miss.; University of Virginia, Charlottesville, 1857; aged 83; once president of the Missis-

✠ Indicates "Fellow" of the American Medical Association.

sippi State Medical Association; died in an infirmary in Hattiesburg, Miss., January 19.

LeRoy J. Beebe, Yakima, Wash.; University Medical College of Kansas City, Mo., 1909; aged 38; house physician at St. Elizabeth's Hospital; died, December 29, four days after an operation for appendicitis.

Robert Pooler Myers, Claremont, Calif.; Savannah, Ga., Medical College, 1860; aged 80; a member of the Medical Society of Hawaii, and for several years a resident of Honolulu; died, January 1.

Agnes Mary Browne, Oakland, Calif.; College of Physicians and Surgeons, San Francisco, 1918; aged 46; died in St. Luke's Hospital, San Francisco, January 13, from myocarditis after a laparotomy.

Alonzo F. Kramps ✠ Chicago; Rush Medical College, 1895; aged 54; for many years a member of the staff of the St. Elizabeth's Hospital; died, January 30, from pneumonia following influenza.

John Austin Kane ✠ Brooklyn; Harvard University Medical School, 1902; aged 41; attending physician to the Angel Guardian Home; a specialist in pediatrics; died, January 23, from pneumonia.

Henry Hopson Wilcox, Montague, Mass.; Cornell University, New York City, 1906; aged 38; a member of the Massachusetts Medical Society; died in Des Moines, Iowa, December 23.

Andres Buckham MacLean, Centralia, Wash.; University of Toronto, 1906; aged 45; a member of the Washington State Medical Association; coroner of Lewis County; died, January 12.

Russel Ross Marble, Hastings, Neb.; University of Michigan, Ann Arbor, 1902; aged 48; died in the Mary Lanning Hospital, Lincoln, January 16, from pneumonia complicating diabetes.

William Pell Ballance, Los Angeles Harbor, Calif.; Washington University, Baltimore, 1873; aged 67; for several years a practitioner of Alaska; died, January 5, from heart disease.

Daniel Kuhn ✠ St. Louis; Washington University, St. Louis, 1865; aged 82; for more than half a century a practitioner of St. Louis; a specialist in pediatrics; died, January 14.

John Clark Patterson, Batavia, Ill.; Northwestern University Medical School, Chicago, 1872; aged 70; died in the Presbyterian Hospital, Chicago, January 11, from pneumonia.

William Cicero Sessoms, Brewton, Ga.; Atlanta (Ga.) Medical College, 1892; aged 53; died at the home of his father in Stedman, Ga., January 8, from cerebral hemorrhage.

Daniel W. Maxson, Galveston, Texas (license, Kansas, 1901); aged 82; for many years a practitioner of Toronto, Kan.; died, January 14, at the home of his son in Galveston.

Oliver Harrison Martin, De Pere, Wis.; Rush Medical College, 1874; aged 85; for more than thirty years a practitioner of Kewaunee, Wis.; also a druggist; died, January 8.

William H. Wagner, York, Pa.; Jefferson Medical College, 1881; aged 67; director of health during the smallpox epidemic in 1900; died, January 3, from aneurysm of the aorta.

Albert William Knott, Montrose, Colo.; Washington University, St. Louis, 1906; aged 43; a member of the Colorado State Medical Society; died, January 2, from tuberculosis.

George Henry Sanborn, Shawnee, Okla; University of Vermont, Burlington, 1899; aged 46; a member of the Oklahoma State Medical Association; died, about January 7.

Henry William Morgan, Nashville, Tenn.; Vanderbilt University, Nashville, 1875; aged 66; formerly dean of the dental department of his alma mater; died, January 17.

James Ramsay Flood, Momence, Ill; Jefferson Medical College, 1866; aged 81; for many years a practitioner of Chicago; died, January 9, from valvular heart disease.

Charlotta Yhlen Olsen, Philadelphia; Woman's Medical College of Pennsylvania, Philadelphia, 1873; aged about 70; died in Pasadena, Calif., January 14, from heart disease.

Edward Morris Price, Brooklyn, L.R.C.P., London; L.R.C.S., England, and M.R.C.S., England, 1879; University of Brussels, Belgium, 1884; aged 62; died, January 13.

George Nelson Vail, Parker, Kan.; University of Michigan, Ann Arbor, 1869; aged 79; a member of the Kansas Medical Society; died, January 6, from cerebral hemorrhage.

George Harvey McMichael ✠ Buffalo; Niagara University, Buffalo, 1888; aged 63; a specialist in the treatment of alcoholism; died, January 18, from angina pectoris.

Edward L. Blanding, Chicago; Jenner Medical College, Chicago, 1906; aged 55; also a pharmacist; died in Lakeside Hospital, Chicago, January 25, from pneumonia.

John Whiten Merry, Mount Ayr, Ind.; University of Michigan, Ann Arbor, 1869; aged 76; died in the Jasper County Hospital, Rensselaer, Ind., January 1.

Joseph J. McKinney, Rifle, Colo.; St. Louis College of Physicians and Surgeons, 1909; aged 48; died in Pueblo, Colo., January 2, from pernicious anemia.

William S. Brabham, St. Louis; Meharry Medical College, Nashville, Tenn., 1898; aged 50; a colored practitioner; died, November 14, from cerebral hemorrhage.

Milton Hall Leonard, New Bedford, Mass.; University of the City of New York, 1879; aged 63; visiting physician to St. Luke's Hospital; died, January 14.

Josephus S. Graham ✠ Tuckerman, Ark.; Bellevue Hospital Medical College, 1889; aged 54; died in Hot Springs, Ark., January 16, from angina pectoris.

Arthur F. Schulz, Chicago; Dearborn Medical College, Chicago, 1907; aged 41; was found dead in a hotel in Milwaukee, February 1, from pneumonia.

Robert Kells Hackett ✠ Major, M. C., U. S. Army, Los Angeles; Tulane University, New Orleans, 1899; aged 49; died in San Francisco, January 1.

William A. Pease, Otsego, Wis.; (license, Wisconsin, 1899); aged 83; a member of the State Medical Society of Wisconsin; died, January 6.

Orlando S. Wood, Omaha; Hahnemann Medical College, Philadelphia, 1860; aged 87; died at the Home of Hope, Florence, Neb., January 10.

Bruce Frary Halsey, Medina, N. Y.; University of Louisville, Ky., 1901; aged 43; died, January 5, from pneumonia, at a sanatorium in Buffalo.

John Devin Kelly, New Haven; University of the City of New York, 1880; aged 73; died in Hamden, Conn., January 9, from angina pectoris.

John Joseph Walsh, Scranton, Pa.; Jefferson Medical College, 1886; aged 58; died, December 31, as the result of an automobile accident.

Willard Channing Brown ✠ Detroit; University of the City of New York, 1881; aged 62; died, October 18, from acute nephritis.

William P. Sydnor, Burgess Store, Va.; Washington University, Baltimore, 1874; aged 78; died, September 19, from senile debility.

Samuel Freeman ✠ Trenton, N. J.; University of Pennsylvania, Philadelphia, 1899; aged 43; died, January 13, from pneumonia.

John Henry Gifford ✠ Fall River, Mass.; Harvard University Medical School, 1884; aged 61; died, December 14, from myocarditis.

Henry K. Cunningham, La Plata, Mo.; College of Physicians and Surgeons, Keokuk, Iowa, 1874; aged 84; died, January 7.

Thomas Walter Clarke, Philadelphia; Hahnemann Medical College, Philadelphia, 1896; aged 46; died, January 8, from nephritis.

Alfred Hall Perrie ✠ McKendree, Md.; Baltimore Medical College, 1895; aged 48; died, January 14, from heart disease.

Steven H. Hurst, Laconia, Ind.; University of Louisville, Ky., 1889; aged 63; died, January 13, from heart disease.

William Clarence Benjamin ✠ Hornell, N. Y.; University of the City of New York; 1887; aged 60; died, January 9.

William Lawton Eyers, New York City; Bellevue Hospital Medical College, 1892; aged 74; died, January 17.

George Augustus Sigler, Indianapolis; Bellevue Hospital Medical College, 1879; aged 73; died, January 18.

Pasquale Monaco, Chicago; University of Naples, Italy, 1910; aged 59; died, January 22, from influenza.

Orson Hyde Crandall, Quincy, Ill.; Eclectic Medical Institute, Cincinnati, 1867; aged 93; died, January 17.

Lamont H. Ross, Lewisburg, Pa.; University of Buffalo, N. Y., 1892; aged 53; died, January 9.

John Hood, Baltimore; University of Michigan, Ann Arbor, 1858; aged 81; died, December 26.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE FRAUD ON THE PUBLIC AND ON THE PROFESSION

GRALE'S FRUIT LAXATIVE

"Grale's Fruit Laxative" put out by the Grale Packing Co., Roselle, N. J., is advertised under the claim that it contains no drugs:

"Grale's Fruit Laxative contains only figs, dates, raisins and prunes, a few simple herbs and bran. NO DRUGS AT ALL."
". . . this is a *food—not a drug*. . . ."

The preparation was submitted to the A. M. A. Chemical Laboratory for the purpose of determining whether or not the claim that the stuff contained no drugs was justifiable. The laboratory report follows:

"Grale's Fruit Laxative" is a soft, brown solid with an odor and taste suggestive of figs and prunes. Chemical examination indicated the presence of an emodin-bearing drug, or its extractives, in considerable amounts. This was shown by further tests to be neither aloes, cascara nor rhubarb. Microscopic examination revealed the presence of ground senna in the mass. Since senna is a well known drug of recognized therapeutic activity, the declaration on the label of Grale's Fruit Laxative that the preparation contains no drugs is false.

DIONOL—THE GLORIFIED PETROLATUM

An Indiana physician sends us in a batch of leaflets detailing the marvels of "Dionol" and thus comments:

"I received the enclosed in the mail today and I am puzzled, perplexed and astounded. I had formed the opinion that the profession was getting better; that it was more scholarly than formerly when the two course school was still in existence and any one could matriculate; that it was no longer possible for a 'patent medicine' manufacturer to palm off his wares on us. After reading this stuff and realizing that such methods must be remunerative, I am deeply humiliated. Is it possible that educated physicians respond to this kind of advertising? Or has some one perpetrated a joke on me? If the profession can be thus successfully exploited one can no longer wonder at the following which every new 'ic' and 'ism' acquires."

It is a pity that the medical profession generally does not react to the Dionol and similar advertising as does our correspondent. As the concern continues to do business, the presumption is that at least some physicians are using Dionol. As was pointed out in THE JOURNAL of Jan. 26, 1918, Dionol seems to be a glorified and esoteric form of petrolatum. The exploitation of Dionol is based on the following theory: (1) The brain is a generator of neuro-electricity, (2) the nerves are the conductors of this electricity, (3) the nerve sheaths are the insulators, (4) wherever there is local inflammation the nerves are short circuited, due to a breaking down of the insulation resistance of the nerve sheaths, (5) this results in "an escape of neuro-electricity," (6) Dionol coats the nerve sheaths with a nonconducting layer and this restores the insulation and "stops the leak."

Whether this ingenious theory was invented to lend an air of verisimilitude to an otherwise bald and unconvincing tale and give a "reason for being" for Dionol or whether Dionol was first invented and it became necessary to evolve a theory that would give some plausibility to the claims made for this etherealized petrolatum, we are unable to say. In any case the theory and the product are exploited together.

Among the material sent in by a correspondent are some "Dionol Case Reports." Neither the names nor the addresses of the physicians making these reports are given, but the company states that they may be had "on request." One special "report" is featured under the heading "Infected Wound. Striking Results After United States and French Government Army Surgeons Failed" is signed "Dr. W." It is dated July 19, 1919. A few months ago the Dionol Company was sending out this same testimonial with the full name and address of the "doctor" giving it. Investigation showed that the "doctor" in question was an osteopath whose specialties, according to his advertisement in his local newspaper are "Catarrhal Deafness and Hay Fever, Acute and Chronic Diseases"! In this connection it is worth noting that investigation of some of the earlier testimonials sent out by the Dionol concern and alleged to have been given by "doctors" showed that the gentlemen in question were "drugless healers."

As a "true indication of the value which the medical profession is placing on Dionol" the Dionol Company has published the names of some physicians who, it is alleged, have used the preparation. Here, arranged geographically, are some of the "prominent physicians throughout the country" who are said to have had "remarkable success" with Dionol:

BALTIMORE, Md., Dr. O. N. Duvall.
BOSTON, Mass., Dr. A. H. Flower.
CHICAGO, Ill., Dr. Frank W. Klocke.
DETROIT, Mich., Dr. B. A. Bullock.
DETROIT, Mich., Dr. P. L. Lathrop.
DETROIT, Mich., Dr. C. G. Morris.
DETROIT, Mich., Dr. E. A. McCosh.
DURAND, Wis., Dr. R. G. Healy.
DRYDEN, N. Y., Dr. M. L. Briggs.
GOSHEN, Ind., Dr. R. L. Starkweather.
GRAND RAPIDS, Mich., Dr. L. R. McCready
MINERAL WELLS, Texas, Dr. R. H. Lindley.
MOUNDVILLE, Mo., Dr. G. Schaff.
MUSCOGEE, Fla., Dr. A. J. Johnson.
OKLAHOMA CITY, Okla., Dr. G. S. Pettit.
PITTSBURG, Pa., Dr. H. J. Dorrance.
PITTSBURG, Pa., Dr. J. E. Johnston.
SEDAN, Kans., Dr. F. W. Wells.
SOUTH BEND, Ind., Dr. H. A. Fink.
SPRINGFIELD, Ill., Dr. Emery Ennis.
WILMAR, Minn., Dr. Oscar Zahr.

HYPNO-BROMIC COMPOUND

A physician in Vermont writes:

"This is simply a word of inquiry—and of possible warning to other practitioners—regarding a preparation known as Hypno-Bromic Compound manufactured by H. K. Wampole & Co. This compound is dispensed by druggists without prescription and contains in each ounce:

"Cannabis indica	1	gr.
"Morphin	¼	gr.
"Potassium bromid	48	gr.
"Hyoscyamus	1	gr.
"Chloral hydrate	96	gr.

"I have at the present time three young women who are addicts to this preparation as the result of thoughtless prescriptions from physicians. This mixture evades the working of the Harrison Act and may be dispensed freely at the discretion of the druggist and, as a result, these three cases of mine have been able, by visiting the various drug stores in town, to keep an ample supply on hand at all times."

"Hypno-Bromic Compound" is more than an unscientific mixture; it is a dangerous product and should not be sold indiscriminately over the drug counter. Before the Harrison Narcotic Law went into effect, "Hypno-Bromic Compound" contained half a grain of morphin sulphate to the ounce instead of its present one-fourth grain. Physicians remember that Section 6 of the Harrison law contains a joker—put over by the "patent medicine" interests—that exempts proprietary remedies containing one-fourth of a grain of morphin or less to the ounce from the restrictions of that Act. While it is illegal for a physician to write a prescription which contains morphin, no matter how small the amount, unless he conforms in all ways to the requirements of the Harrison Narcotic Law, "patent medicine" concerns can sell indiscriminately nostrums containing morphin up to this amount and the public can buy them without let or hin-

drance. No reputable druggist would sell a layman over seven hundred grains of chloral hydrate or two grains of morphin or eight grains of extract of cannabis indica, without a prescription, yet, the druggist may hand over 8 ounce bottles of Hypno-Bromic Compound which contain 768 grains of chloral hydrate, 2 grains of morphin sulphate, 8 grains of extract of cannabis indica, 8 grains of hyoscyamus and 384 grains of potassium bromid! Physicians who prescribe such products as Hypno-Bromic Compound and druggists who indiscriminately sell such stuff are disgracing two honorable professions.

Correspondence

RECOGNITION OF A GREAT MEDICAL CAREER

To the Editor:—In our country there are few formal means for recognizing in any public way the services of a great physician or a great teacher. In the older countries such services have been recognized by the bestowal of honors, or nobility or grants of money, or by other official means which call attention to the services rendered. In our country no recognition through official orders may be given, and we are glad to have it so, because, admirable as such prizes are when worthily bestowed, they become too often the playthings of political favor or of personal privilege.

In the case of Dr. Christian R. Holmes, whose death the medical profession deplores, action has been taken by the Carnegie Corporation of New York to give notable recognition of his services to the science of medicine and to medical education. Immediately after his death the Carnegie Corporation appropriated $250,000 to the University of Cincinnati for the endowment of a chair of clinical medicine to bear forever the name of the Christian R. Holmes Chair of Medicine. The information concerning this action was conveyed to the University of Cincinnati in the following telegram signed by Hon. Elihu Root, chairman of the board:

> The trustees of the Carnegie Corporation of New York at their meeting held this day have appropriated the sum of two hundred and fifty thousand dollars which they tender to the Medical Department of the University of Cincinnati to endow the chair of clinical medicine in honor of Christian R. Holmes and to bear his name. This action is in recognition of Dr. Holmes' great service to medical education.

Every man who is interested in the progress of the medical profession and who knows of the intelligence and devotion that Dr. Holmes gave to his work will feel a sense of satisfaction at this recognition. Philanthropists and endowed foundations that give money for the promotion of science and education generally attach to their gifts conditions which require the institution or individual to raise additional means. In this instance the Carnegie Corporation makes no conditions but tenders this money generously and heartily, to commemorate the service of a physician of Cincinnati to his city, to his state, and to the nation. It is a fine thing for a great foundation to make such a hearty and spontaneous tribute to the service of Dr. Holmes. In the opinion of the corporation, he has rendered a notable service to medicine and to medical education. A dozen years ago, medical teaching in Cincinnati was in the same condition as in all our great cities; the work was carried on oftentimes unselfishly, sometimes from professional motives; but in the main, medical teaching was a by-product of medical practice. Dr. Holmes was a member of that group of American physicians and surgeons who helped to bring about a new conception of medical teaching and to lift our medical schools free from commercialism. Through his efforts and those of other men equally devoted, there is in Cincinnati a medical school, a part of a university, having high standards and scholarly outlook. There was built through Dr. Holmes' exertion one of the great public hospitals of the world, planned after a study of all the hospitals of Europe and America. This hospital, although a municipal hospital, is under the control of the University of Cincinnati College of Medicine, and politics has been completely eliminated from its management. The medical school stands adjoining the hospital, and together they offer most admirable clinical opportunities for medical students. The University of Cincinnati College of Medicine promises to be one of the great medical schools of the world. To have wrought this work with such farsightedness, such scientific sincerity, and with such success as Dr. Holmes did, was to render a notable service to medicine and to medical teaching, and it is this service which the Carnegie Corporation desired to honor.

Other men in Cincinnati worked for the same ideals and contributed to the same purpose. Dr. Holmes would be the first to wish that they might receive full credit. His service would have been impossible without their support and cooperation, or without the consistent and able support of President Dabney of the University of Cincinnati. The Carnegie Corporation of New York forgets none of these things, but the trustees felt sure that every physician and every teacher who has wrought in the medical schools of Cincinnati will agree that there should be a special testimonial to him whose leadership and whose devotion have resulted in such fruitful results for his city and for his country.

HENRY S. PRITCHETT, New York.
President, Carnegie Foundation for the Advancement of Teaching.

THE MEDICAL RESERVE OFFICER

To the Editor:—Referring to the interesting article by Dr. Louis J. Hirschman in THE JOURNAL, January 3:

Individual injustices regarding rank were inevitable in the rapid expansion of the Medical Corps to about fifty times its original number. Correction of errors was under way when the war ceased; but military machinery moves slowly, and deliberate action was necessary to avoid fresh errors.

So far as the limitation of medical rank to major and of line rank to colonel, the M. C. duties corresponding to higher rank are very different and require long military experience. A fairly adequate supply of experienced men was available in the regular establishment, and subordinate positions requiring mainly professional skill could be filled from civilian life. In the line, duties at least as far as colonel are a logical and fairly simple extension of those of lower ranks for which the regular army could not have provided without undue promotion of immature officers. An adequate supply was available among national guard officers of long experience, while civilian physicians who had had any kind of military experience fitting them, for example, to conduct a base hospital, were very few.

For raw material, trained at camps, the medical profession had a distinct advantage in rank compared with any other class. All entered at least as first lieutenants, while most line officers graduated as second lieutenants. Many of the former were captains and majors, while the few line officers who entered active duty as majors were instances of influence or native ability. So far as I can judge, even the rank on discharge at the end of war averaged higher for medical men than others, not even excluding national guardsmen of long antebellum experience.

The limitation of rank in the (reserve) medical corps was abrogated fairly early in the war, both in theory and in practice, and did not at the beginning apply to such national guard surgeons as were eligible to the rank of lieutenant colonel (division surgeon). The profession actually received a good many commissions higher than the majority, at least one brigadier-generalship; and in another year of war, a still better showing would have been made.

The implication that the reserve surgeon would have been better off either as to proficiency, efficiency or personal comfort under amateur superiors, is, so far as my experience and observation goes, entirely contrary to fact.

The general complaint of surgeons from civilian life who served in the war depends not on the matter of rank but on the essential differences between civilian and military regulations and customs. How far the latter can be modi-

fied to suit men from civil life in a great military emergency is a problem too complicated to discuss here, and I am rather inclined to believe that Mahomet will have to go to the mountain instead of trying to get the mountain to come to him.

The problem would have been solved to a large degree practically if, instead of thinking so much about rank, men who were only temporarily in military service had continued to think of themselves as physicians, had limited their conception of rank to necessary authority, and had not carried it into strictly professional matters, as the establishment of diagnoses, arbitrary regulation of therapeutics and claiming of right to operate, but had demanded and practiced the spirit of professional loyalty supposed to pertain to their life work.

A. L. BENEDICT, M.D., Buffalo.

COMPULSORY HEALTH INSURANCE

To the Editor:—In THE JOURNAL, Jan. 24, 1920, p. 271, Dr. E. M Stanton opposed the principles of compulsory health insurance on the grounds that the burdens of such insurance cannot be borne by the insured. In so doing, in my opinion, he made a very good argument in favor of compulsory health insurance.

It is precisely because modern scientific medicine, as practiced today, is too expensive for any except the very rich that some system must be evolved to diminish the expense to the individual.

If Dr. Stanton seriously believes that the wage earner in general receives adequate medical attention under the present system he is, naturally, opposed to any form of health insurance. A few physicians who emphasize the fact that prolonged illness in persons of limited income almost universally leads to the support of the individual either by the state or by charitable institutions believe that health insurance will diminish the demands made on charity.

Health insurance will decrease the demands made on charity because it will cause: (1) the distribution of the economic loss due to enforced idleness as a result of illness, and (2) a diminution in preventable illness which will occur as a consequence of earlier diagnosis and treatment.

Unless it is believed that we are accomplishing everything possible toward the prevention of disease, there is no excuse for opposition to a measure which is proposed in the effort to afford earlier and better medical care for a large percentage of individuals in a given community. Criticism to health insurance should at least suggest the alternative.

Dr. Stanton quotes the General Electric Mutual Benefit Association as "one of the best sickness insurance policies ever offered," and prefers it to the Davenport bill. Unfortunately, not all workmen can be employed by the General Electric Company or by the Ford Motor Company, which also makes excellent provision for sick or injured employees. It is precisely because it is desirable to give every employee the protection that is now given by certain of the more progressive industrial corporations that compulsory health insurance has been advocated.

If the General Electric Company has the best plan of sickness insurance, by all means let us advocate such a plan. If universal care of the community by the state board of health is preferable to any form of insurance, then it should be favored. But let us not oppose constructive legislation for the benefit of the sick unless we can offer something better.

Private practice and organized charity, together with the excellent state organizations for public health, do not today solve the problem of medical care for the wage earner, as the records of any charitable organization will clearly demonstrate.

A. C. BURNHAM, M.D., New York.

The Public's Help.—No big step in social progress is possible without the active sympathy of large masses of the community, and in this respect the movement for improving the national health has the greatest support.—Brend.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SURRENDER OF WAR TERM INSURANCE

To the Editor:—I desire some information about war risk insurance. Will the Bureau of War Risk Insurance refund all or part of the premiums paid after discharge from the service to any one who wishes to discontinue his insurance? I wrote the bureau and asked this information, but received an evasive answer along with advice that I had better reconsider my decision on account of the numerous advantages, etc., etc. The letter was a "ready made" one, like all correspondence of the bureau, my name and address being merely inserted to fit the contents.

I was honorably discharged from service late in 1918, and hoping to be able to convert my policy into a standard government peace time policy, I paid my war time premiums regularly and faithfully each month as due, up to and including September, 1919. I was continually annoyed by notices from the bureau that my policy had lapsed, in spite of the fact that I had receipts for premiums and was paid up to date and continued to receive receipts month by month. I wrote the bureau three or four times asking an explanation, and each time had to wait from four to six weeks for a reply which, as usual, dodged my question and enumerated the many advantages of holding on to one's policy, etc., etc. Then the bureau sent five different premium receipt-notices, also a few lapse notices sprinkled in, to the address of my beneficiary, in a far away land across the sea. Note, I had already received, and was then receiving, correspondence from the bureau at my correct address in America. Their very latest stunt was to address me by my first and middle name only, making a surname out of my middle name, and reduplicating the initial of my middle name. By extraordinary intelligence on the part of the local post office, the letter reached me safely. I cannot think but that the Bureau of War Risk Insurance is a marvel of inefficiency. For this reason, and because I was financially unable to convert my policy, I became thoroughly disgusted, and wished I had dropped my insurance when I was discharged. So in October, 1919, instead of paying a premium as usual, I wrote and asked the bureau the question I have asked you. Under date of November 24, they answered as I described. Perhaps you can give me the information I desire, since I cannot get it from the bureau.

M.D., Ind.

ANSWER.—Our correspondent's letter was referred to the Bureau of War Risk Insurance, which replies: "A man who kept up his insurance after discharge has received full value for the premiums paid in that he has received protection for the time covered by his premiums. The war term insurance has no surrender value except an amount equivalent to the unearned premium paid in. A premium notice is sent to each policy holder as a reminder that the premium should be paid. If it has been paid already, the notice should be disregarded. In some instances, premium notices may be forwarded after the premium payment has been received, but before it has been posted to the insured's account." The director of the bureau states that he does not feel that a clerical error, even though annoying, should cause a man to demand his insurance policy or allow it to lapse. Government life insurance is backed by all the resources of the United States government, and is not only the safest but the cheapest insurance with similar benefits obtainable. Our correspondent is also requested to communicate directly with Mr. R. W. Emerson, Assistant Director of War Risk Insurance, who will make a special investigation of his case.

FILARIASIS—TROPICAL DISEASES

To the Editor:—1. Please let me know what is the latest treatment for filariasis.

2. What is the best book on tropical diseases?

A. C. VIEIRA DA CUNHA, M.D., Recife, Brazil.

ANSWER.—**1.** Drug treatment of filariasis, according to Manson and others, is uniformly disappointing. The drugs that have been recommended in the treatment of this disease are gallic acid or benzoic acid in large doses, glycerin, the tincture of ferric chlorid, decoction of mangrove bark, chromic acid, quinin, sodium salicylate, ichthyol, *Nigella sativa*, thymol, and methylene blue. R. G. Lee (*Crónica méd.-quir. de la Habana* 44:15 [Jan.] 1918) reported excellent results in eighteen cases of filarial hematuria treated with potassium iodid. Leonard Rogers (*Lancet* 2:604 [Oct. 4] 1919) found that repeated injections of safe doses of sodium antimonyl tartrate, 1:50 solution, produced diminution of filarial embryos in the peripheral blood. Jeanselme (*Bull. Acad. de méd.* 81:156 [Feb. 4] 1919) and Deschamps (*Bull.*

Acad. de méd. **81**:655 [May 20] 1919) have reported radical cures after intravenous injections of arsphenamin. Special treatment will naturally depend on the manifestations in a given case. Lymphangitis with fever requires rest, elevation of the affected part, ice or cooling lotions or warm fomentations locally, opium or morphin when necessary to relieve pain, mild aperients, and if tension is great, pricking or scarifying of the swollen area. Lymph scrotum should be kept scrupulously clean, powdered, suspended and protected against irritation or injury. Chyluria demands absolute rest, elevation of pelvis, restriction of fluid and food—especially fats—and gentle purgation. In elephantiasis of extremities, elastic bandages, massage and elevation of the part are indicated. Any or all of these conditions may necessitate surgical interference for the relief of an incapacitating amount of discomfort or frequent inflammatory attacks with fever.

2. There are several excellent texts on tropical medicine, among which are:

Manson, Sir Patrick: Tropical Diseases, Ed. 5, Pp. xxiv+937, New York, William Wood & Co. 1914.

Castellani, Aldo, and Chalmers, A. J.: Manual of Tropical Medicine, Ed. 2, New York, William Wood & Co., 1913.

Stitt, E. R.: The Diagnosis and Treatment of Tropical Diseases, Ed. 2, pp. xiii+534, Philadelphia, P. Blakiston's Son & Co., 1917.

Handbuch der Tropenkrankheiten, herausgegeben von Prof. Dr. Carl Mense, Ed. 2, Leipzig, J. A. Barth, 1913.

Traité pratique de pathologie exotique, publiée en fascicules sous la direction de MM. C. Grall et A. Clarac, Paris, J. B. Baillière et fils, 1910-1913.

EUPAD AND EUSOL

To the Editor:—Please publish the formula for preparing eusol. This preparation was extensively used by the medical officers in the British army in France.

F. P. SALLEY, M.D., Union, S. C.

ANSWER.—In 1915, Prof. Lorrain Smith and co-workers published a report on the "Antiseptic Action of Hypochlorous Acid and Its Application to Wound Treatment" (*Brit. M. J.* **2**:124 [July 24] 1915) wherein they described (1) a powder consisting of an intimate mixture of equal parts by weight of boric acid and chlorinated lime ("bleaching powder") to which was given the name "eupad"; (2) a solution prepared from the same ingredients as those of eupad, which was termed "eusol." This solution may be made in either of two ways:

(*a*) Twenty-five grams of eupad are shaken with 1 liter of water, allowed to stand for a few hours, and then filtered through cloth or filter paper.

(*b*) To 1 liter of water add 12.5 gm. of chlorinated lime ("bleaching powder"), shake vigorously, then add 12.5 gm. boric acid powder and shake again. Allow to stand for some hours, preferably overnight, then filter, and the clear solution is ready for use.

In the foregoing formulas (of Smith et al.) for eusol, commercial chlorinated lime was employed, which contained about 25 per cent. available chlorin, whereas the official chlorinated lime is required to assay 30 per cent. in both Great Britain and the United States. Therefore when the official product is used a smaller quantity should be sufficient, namely, 10 gm. of chlorinated lime U. S. P., instead of 12.5 gm. of the commercial product. The name "eusol," we understand, is a contraction of the words "Edinburgh University solution."

LITERATURE ON ELECTRIC SHOCK

To the Editor:—Please give me the titles of literature bearing on burns, death, etc., from electric shock.

GLENN E. WRIGHT, M.D., Woodstock, Ill.

ANSWER.—References to the literature on electric shock were published in THE JOURNAL, March 15, 1913, p. 851, and Feb. 27, 1915, p. 763.

The following titles have since accumulated:

Ingalls, H. A.: Remote Effects of Electric Shock, *New Mexico M. J.* **15**: 185 (Feb.) 1916.

Kirmisson, E.: Brulures multiples par l'électricité; hémoglobinurie; morte rapide à la suite de convulsions, *Bull. et mém. Soc. de chir. de Paris* **42**: 1887, 1916.

Bayliss, W. M.: The Dangers of Electrical Currents, *Nature* (London) **100**: 24, 1917.

Mieremet, C. W. G.: Death from Electric Shock from Incandescent Bulb. *Nederlandsch Tijdschr. v. Geneesk.* **2**: 1951 (Dec. 1) 1917; abstr. THE JOURNAL, March 2, 1918, p. 661.

Tornaghi, E.: Polyneuritis Following Electric Shock from Live Wire, *Brazil Med.* **31**: 175 (May 26) 1917; abstr. THE JOURNAL, July 28, 1917, p. 393.

Lewis, D.: Electric Burn Causing Necrosis of Skull, *Ann. Surg.* **67**: 149 (Feb.) 1918.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA: Juneau, Mar. 2. Sec., Dr. L. O. Sloan, Juneau.

CALIFORNIA: Los Angeles, Feb. 16-19. Sec., Dr. Chas. B. Pinkham, 906 Forum Bldg., Sacramento.

CONNECTICUT: New Haven and Hartford, March 9-10. Sec., Reg. Bd., Dr. Robert L. Rowley, Hartford. Sec., Homeo. Bd., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven. Sec., Eclectic Bd., Dr. James Edwin Hair, 730 State St., Bridgeport.

FLORIDA: Jacksonville, March 16. Sec., Homeo. Bd., Dr. Geo. A. Davis, East Port.

ILLINOIS: Chicago, Mar. 1-3. Director, Mr. Francis W. Shepardson, Springfield.

INDIANA: Indianapolis, Feb. 10-13. Sec., Dr. W. I. Gott, 84 State House, Indianapolis.

KANSAS: Topeka, Feb. 10. Sec., Dr. H. A. Dykes, Lebanon.

MAINE: Portland, March 9-10 Sec., Dr. Frank W. Searle, 140 Pine St., Portland.

MASSACHUSETTS: Boston, March 9-11. Sec., Dr. Walter P. Bowers, Room 144, State House, Boston.

NATIONAL BOARD OF MEDICAL EXAMINERS: St. Louis and Chicago, Feb. 18-25. Sec., Dr. J. S. Rodman, 1310 Medical Arts Bldg., Philadelphia, Pa.

NEW HAMPSHIRE: Concord, March 11-12. Sec., Dr. Charles Duncan, Concord.

VERMONT: Burlington, Feb. 10-12. Sec., Dr. W. Scott Nay, Underhill.

NEW FEATURES IN SANATORIUM ARCHITECTURE

Hospital and sanatorium architecture is in a very fluid state, owing in part to the development of fresh air treatment of tuberculosis and to the rapid multiplication of sanatoriums

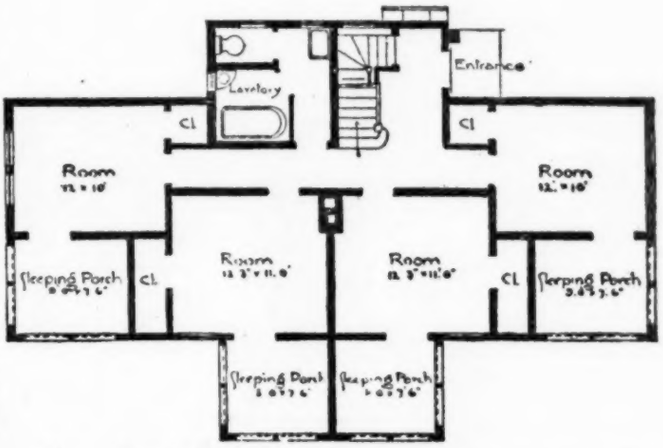


Fig. 1.—Typical floor plan of a two-story, eight-room cottage. There are a toilet and bath on each floor, and a closet and sleeping porch to each room.

and hospitals. The main point of recent advance is the recognition that while the grouping of patients in large wards promotes economy of administration, it lessen privacy and homelikeness. This is an important consideration, particularly in cases requiring treatment extending over long periods of time, and also in the handling of acute respiratory conditions. We have recognized that the old grouping *en masse* of patients was not best. The formation of cubicles by hanging sheets between beds will no doubt arouse the ingenuity of hospital architects to devise more permanent arrangements to produce the desired protection. The public and the profession have been educated as to the value of fresh air. It is a well recognized fact that the good accomplished for the consumptive patient by sanatorium treatment is directly to his general condition and only indirectly to his lesion. Many existing institutions appreciating this fact are opening windows, putting cubicles around certain patients, and using piazzas and roofs for convalescent patients.

It is in the architecture of new institutions, however, that we look for the greatest advance. Facilities must be furnished for providing patients with fresh, cool air, and also with warmth when they are fed, bathed or dressed. The sleeping porch, an American invention, has become practically universal in tuberculosis sanatoriums. Prior to 1900, the few existing tuberculosis institutions followed the hospital idea of rooms or wards; but with the development of the sleeping porch and cottage buildings at the Trudeau Sanatorium, sanatorium architecture became an entity. Following this, the nation-wide campaign against tuberculosis was organized and there was rapid development of local and state sanatoriums. The apparent necessity for lower cost of building and administration led to the adoption of the so-called "lean to" or King shack plan for ambulant patients.

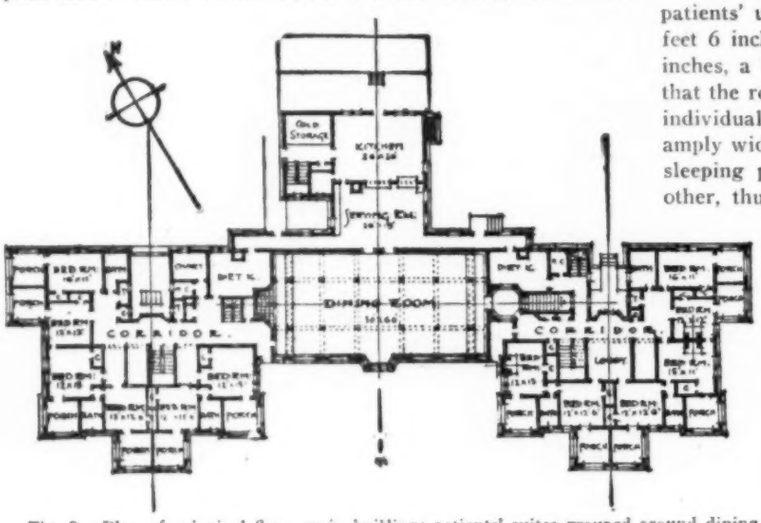


Fig. 2.—Plan of principal floor, main building; patients' suites grouped around dining room, office, kitchen, service room and storage. Each suite consists of bedroom, closet, sleeping porch and bathroom.

In 1905, the idea of the individual room and sleeping porch was elaborated in the erection of several eight-room, two-story cottages at the Cragmor Sanatorium, Colorado Springs. A typical floor plan of these cottages is shown in Figure 1. It is quite simple as applied to a small building.

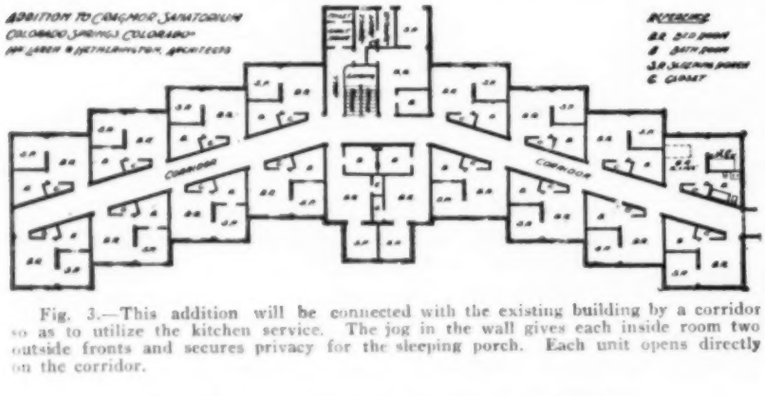


Fig. 3.—This addition will be connected with the existing building by a corridor so as to utilize the kitchen service. The jog in the wall gives each inside room two outside fronts and secures privacy for the sleeping porch. Each unit opens directly on the corridor.

The arrangement was satisfactory from an administrative standpoint as well as from that of the patient, and it was later carried into effect in a large three-story building, the principal floor of which is shown in Figure 2. This building, in addition to suites for patients, contains dining room, offices, kitchen, service room and storage. The arrangement provides for each room a bath, a closet and a sleeping porch that opens on two sides. As a still further development of this idea a new building, the ground floor plan of which is shown in Figure 3, is to be erected adjoining the main building (Fig. 2) in order to receive direct service from the kitchen. The new addition will be built 30 feet to the southwest of the existing building, and will be connected to it by a closed corridor 6 feet 6 inches wide. It will be three stories high. On the ground floor will be located the laboratory, roentgen-ray department, physician's offices and four patients' units. The center of the first floor is taken up by a large sitting room with closed porch, a diet kitchen and chart and service rooms. The second floor is composed exclusively of patients' units. Each unit consists of a room 12 feet by 10 feet 6 inches, a sleeping porch 10 feet 2 inches by 8 feet 9 inches, a bathroom, and a clothes closet. It is to be noted that the rooms are well ventilated and that each room has an individual sleeping porch open on two sides. The doors are amply wide to permit the beds being moved in and out. The sleeping porches are so arranged as not to overlook each other, thus insuring privacy. Each suite has its bathroom. The plan is an attempt to give patients the privacy and comfort they have in their homes, along with fresh air and the care and supervision that can be provided only in an institution.

Wyoming June and October Examination

Dr. J. D. Shingle, secretary of the Wyoming State Board of Medical Examiners, reports the written examinations held at Cheyenne, June 23-25 and Oct. 6-8, 1919. The examinations covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 19 candidates examined, 11, including 1 osteopath, passed, and 8 failed. Sixteen candidates were licensed by reciprocity. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
George Washington University	(1906)	77
Chicago College of Medicine and Surgery	(1916) 75.7, (1918) 78.6,	79.1
College of Physicians and Surgeons, Chicago	(1897)	83.6
Northwestern University	(1906)	81.2
College of Physicians and Surgeons, Keokuk	(1887)	75.3
Kansas City University of Physicians and Surgeons	(1919)	84.5
St. Louis University	(1914)	85.1
University of Nebraska	(1916)	85.4
FAILED		
Chicago Hospital College of Medicine	(1918)	66
Loyola University	(1917)	65.2
Barnes Medical College	(1903)*	73.2
Kansas City University of Physicians and Surgeons	(1919)	58.1
Marion-Sims College of Medicine	(1896)	64.6
St. Louis Coll. of P. & S.	(1918) 45, (1919)*	68
St. Louis University	(1906)	63.2

College	Year Grad.	Reciprocity with
LICENSED BY RECIPROCITY		
University of California	(1910)	California
Bennett Med. Coll.	(1910)	Minnesota (1912) Illinois
Hahnemann M. Coll. & Hosp., Chicago	(1909)	Illinois
Loyola University	(1916)	Illinois
Northwestern University	(1904)	Illinois
Rush Medical College	(1916)	Illinois
University of Kansas	(1917)	Kansas
Detroit Coll. Med. and Surg.	(1916)	Michigan
St. Louis Coll. Phys. & Surgs.	(1917)	Tennessee
University of Nebraska	(1918)	Nebraska
Eclectic Medical Institute	(1891)	Penna.
Homeopathic Hosp. Coll., Cleveland	(1883)	Nebraska
Western Reserve University	(1918)	Vermont
Medico-Chirurgical Coll. of Phila.	(1907)	Vermont
University of Virginia	(1911)	Michigan

* Failed at both June and October examinations.

New Hampshire September Examination

Dr. Charles Duncan, secretary of the New Hampshire State Medical Board, reports the written examination held at Concord, Sept. 11-12, 1919. The examination covered 11 subjects and included 80 questions. An average of 75 per cent. was required to pass. One candidate, an osteopath, took the physician's and surgeon's examination and passed. Ten candidates were licensed by reciprocity. The following colleges were represented.

College	Year Grad.	Reciprocity with
LICENSED BY RECIPROCITY		
University of Illinois	(1918)	Illinois
Medical School of Maine	(1895)	Mass.

Harvard University	(1910) Rhode Island, (1915, 2), (1916)	Mass.
Tufts College Medical School	(1917), (1919)	Mass.
Cornell University	(1917)	New York
University of Vermont	(1915)	Vermont

Illinois September Examination

Mr. F. C. Dodds, superintendent of registration, Illinois Department of Registration and Education, reports the written and practical examination held at Chicago, Sept. 22-25, 1919. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 78 candidates examined, 53 passed and 25 failed. Twenty-eight candidates were licensed by reciprocity. The following colleges were represented:

College	Year Grad.	No. Licensed
PASSED		
George Washington University	(1917)	1
Howard University	(1915)	1
Bennett Medical College	(1910), (1914)	2
Chicago College of Medicine and Surgery	(1916)	1
Chicago Hospital Coll. of Med.	(1915), (1918, 8), (1919, 3)	12
College of Phys. and Surgs., Chicago	(1904)	1
Loyola University	(1916), (1917), (1919, 11)	13
Northwestern University	(1915), (1918), (1919)	3
Rush Medical College	(1914), (1919, 8)	*9
University of Illinois	(1919)	1
Medical College of Indiana	(1904)	1
Harvard University	(1919)	1
St. Louis University	(1919)	1
University and Bellevue Hospital Med. Coll.	(1915)	1
University of Buffalo	(1919)	1
Leonard Medical College	(1907)	1
Jefferson Medical College	(1919)	1
University of Pennsylvania	(1918)	1
Meharry Medical College	(1915)	1
FAILED		
College of Phys. and Surgs., Chicago	(1901)	1
Chicago Hosp. Coll. of Med.	(1915, 2), (1918, 4), (1919)	7
Jenner Medical College	(1910), (1917)	2
Loyola University	(1916)	1
Ensworth Medical College	(1903)	1
Homeopathic Medical College of Missouri	(1904)	1
National University of Arts and Sciences	(1916), (1917)	2
Washington University	(1903)	1
Chattanooga Medical College	(1909)	1
Meharry Med. Coll.	(1915, 2), (1916), (1917), (1918, 2), (1919) 7.	
Western University	(1913)	1

College	Year Grad.	Reciprocity with
LICENSED BY RECIPROCITY		
Bennett Medical College	(1912)	Nebraska
Chicago College of Medicine and Surgery	(1916)	Missouri
Indiana Medical College	(1907)	Indiana
Indiana University	(1911), (1914)	Indiana
Keokuk Medical College	(1901)	Iowa
University of Louisville	(1909) Indiana, (1917)	Kentucky
College of Phys. and Surgs., Baltimore	(1912)	W. Virginia
Johns Hopkins University	(1913)	Mass.
University of Maryland	(1910), (1916)	Maryland
Detroit College of Medicine and Surgery	(1914)	Michigan
University of Michigan Medical School	(1908)	Michigan
University of Minnesota	(1915)	Minnesota
National University of Arts and Sciences	(1914)	Missouri
St. Louis University	(1914), (1915), (1917, 2)	Missouri
Washington University	(1915), (1916), (1917)	Missouri
Columbia University	(1916)	New York
Eclectic Medical College, Cincinnati	(1917)	Ohio
Medical College of Ohio	(1896)	Ohio
Jefferson Medical College	(1918)	Delaware
University of Pittsburgh	(1911)	Penna.

* Eight of these candidates received limited licenses, pending completion of their hospital internships.

Arizona October Examination

Dr. Ancil Martin, secretary of the Arizona State Board of Medical Examiners, reports the written examination held at Phoenix, Oct. 7, 1919. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 20 candidates examined, 17 passed and 3 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
College of Physicians and Surgeons, Los Angeles	(1918)	82
Chicago Homeopathic Medical College	(1892)	86
College of Physicians and Surgeons, Chicago	(1908)	85.6, 87.6
Northwestern University	(1900) 90.9, (1915)	84.8, 89.4
Rush Medical College	(1914)	91.5
Indiana University	(1918)	87.7
Johns Hopkins University	(1914)	84.6
University of Maryland	(1917)	78.8
Harvard University	(1918)	82.7
Detroit College of Medicine	(1900)	84.
University of Minnesota	(1913)	82.5
St. Louis University	(1911)	81.7
Eclectic Medical Institute	(1905)	81
University of Tennessee	(1915)	80.2
FAILED		
American Medical College	(1892)	60.5
Albany Medical College	(1898)	62.8
Memphis Hospital Medical College	(1893)	69.1

Book Notices

THE FUTURE OF MEDICINE. By Sir James Mackenzie, F.R.S., M.D., F.R.C.P., Consulting Physician to the London Hospital. Cloth. Price, $3.40. Pp. 238. New York: Oxford University Press, 1919.

Scattered through the numerous writings of Sir James Mackenzie are many opinions concerning various aspects of medical education and practice. These statements, most of them critical or suggestive, have been collected, amplified and arranged in orderly sequence and go to make up the present volume. The motif of the book is that the opportunities for investigative work in medicine of the future lie not with the hospital physician or the laboratory man but with the general practitioner. He alone, Mackenzie contends, can learn to appreciate at their true value the symptoms of disease; he is the one best qualified to study the effects of drugs and other remedial agents on sick human beings; he is the only one who by force of circumstances is permitted to observe disease in its incipience and to discover methods of prevention; he is the one who, relying not on instruments of precision or on supposedly accurate laboratory tests or reports of specialists but rather on his well-trained five senses and his judgment ripened by years of experience, learns to recognize such disease with a certainty and an acumen denied to others. Many illustrative examples are cited, drawn largely from Mackenzie's well-known productive investigations on diseases of the heart. There is so much of truth in what he says, so often with sure touch does he locate the disease spot in our system of education or of practice, so keenly does he lay bare our own personal weakness and so clearly does he point out the way of reform—for his criticisms are constructive as well as destructive—that one must perforce be stimulated and benefited by the reading of the book. But one cannot always agree with him. His condemnations of hospital physicians, bacteriologists and other specialists, laboratory experts, and instruments of precision are too sweeping. The truth of many statements, taken even with the context, may well be questioned; many should be viewed rather as expressions of opinion than as demonstrable facts. One gets the impression of a limitation of the field of vision in the author, a certain provincialism that might not have been had he had a wider acquaintance with the world's medical literature, a more extensive practical acquaintance with great medical men and methods in hospitals and laboratories in the metropolis and in lands other than his own, and if all this had happened early in his medical career. Was it not Samuel Johnson who said you might make a good deal out of a Scotchman if you caught him when he was young? We owe much to Sir James Mackenzie; he is deservedly a leader in British medicine; we welcome his advice and criticism; but we do wish he did not leave on us the impression that he feels that the whole medical world is out of joint and that he seems born to set it right.

THE CONDENSED CHEMICAL DICTIONARY. A reference volume for all requiring quick access to a large amount of essential data regarding chemicals, and other substances used in manufacturing and laboratory work. Compiled and Edited by The Editorial Staff of the Chemical Engineering Catalog. F. M. Turner, Jr., Technical Editor, D. D. Berolzheimer, W. P. Cutter, and John Helfrich, Assistant Editors. Cloth. Price, $5. Pp. 525. New York: The Chemical Catalog Company, Inc., 1919.

This book is stated to be "a reference volume for all requiring quick access to a large amount of essential data regarding chemicals and other substances used in manufacturing and laboratory work." The book has evidently been compiled by engineers rather than by pharmaceutical chemists, since the information which might appeal to physicians is unreliable. As illustrations of the numerous misstatements found throughout the work, these may be instanced: The strength of the U. S. P. hydrocyanic acid is given as 10 per cent.—an unpardonable error; that of U. S. P. hydrobromic acid as 40 per cent.; the statement is made that cascara bark loses its cathartic properties on being kept for one year; that magnesium sulphate is soluble in alcohol; that monobasic

sodium phosphate is described in the U. S. Pharmacopeia; also the formula given for homatropin hydrobromid is not the generally accepted one. A number of substances well known in modern medicine, such as procain (novocain), stovain and arsphenamin (salvarsan) are not described, while substances that have no place in rational therapeutics, such as horseradish, tonga, sunflower and trailing arbutus, are described as medicines. The technical uses of barium sulphate are described, but its use in roentgenologic diagnosis is not mentioned. The book is of little value to physicians. It might have been of some value to them if it had been critically edited and if the pharmacologic actions of drugs had been briefly stated. In the tabulation of "uses" as printed, no extra space would have been required to insert such words as "emetic," "cathartic," "diuretic," etc., in addition to the single word "medicine."

The Errors of Accommodation and Refraction of the Eye and Their Treatment. A Handbook for Students. By Ernest Clarke, M.D., F.R.C.S., Ophthalmic Surgeon to the King George Hospital. Fourth edition. Cloth. Price $2.50. Pp. 243, with 92 illustrations. New York: William Wood & Co., 1918.

This is the fourth edition of this admirable book, the first edition having been published fifteen years ago, based on lectures delivered at the Central London Ophthalmic Hospital and the Medical Graduates' College. For an established ophthalmologist the book is of little value, as without a knowledge of the fundamentals that it contains he would hardly be competent to practice this specialty. But for medical students preparing to practice ophthalmology, it is of very practical value. A thorough knowledge of the optical properties of the eye, the different forms of ametropia, the mechanism of accommodation, and the methods of refraction are the first essentials to be mastered before one should attempt to deal with the pathology and treatment of eye diseases. The author has arranged these various subjects in a logical way, and, omitting nonessentials, presents the subject matter clearly and concisely. There can be nothing essentially new or original in a treatise of this kind, so that the merit it deserves is due to the author's happy arrangement of the text and the clear elucidation of the subject, which makes it a work of real value to the student of ophthalmology.

War Surgery from Firing-Line to Base. By Basil Hughes, D.S.O., M.A., M.B., and H. Stanley Banks, M.A., M.B, Ch.B., with Special Chapters by Lieut.-Colonel L. F. Smith, C.M.G., R.A.M.C., and Miss C. Bilton, R.R.C., Q.A.I.M.N.S., and an Introduction by Colonel Sir T. Crisp English, K.C.M.G., F.R.C.S., A.M.S., Consulting Surgeon to the British Forces in Italy. Cloth. Price, $9. Pp. 623, with 373 illustrations. New York: William Wood & Co., 1919.

This is a brief description of the treatment of the wounded from the onset to the time they leave the base hospital. There are lengthy chapters on the bacteriology and pathology of war wounds and the newer methods of treatment, especially those developed by the British. There are several chapters devoted to regional surgery. General anesthesia is advocated for all head operations, instead of local anesthesia as introduced by Gray and extensively used by the British surgeons. Chest injuries were handled more conservatively than was the practice in the American service. Flap amputation is recommended in preference to the guillotine method in all cases, but the wounds are left open for delayed primary or secondary suture. Numerous photographic and roentgenographic illustrations have been included.

Der Kropf der Weissen Ratte. Breitag zur vergleichenden Kropfforschung. Von Prof. Dr. Th. Langhans und Prof. Dr. C. Wegelin. Paper. Price, 14 francs. Pp. 131, with 13 illustrations. Bern: Paul Haupt, 1919.

This publication is the outcome of one part of the work of the Swiss goiter commission, which has conducted extensive investigations in the attempt to explain the high goiter rate of Switzerland. Wilms and Bircher have reported that white rats which drink "goiter water" often show goiter comparable to that of man. Langhans and Wegelin find that white rats kept in goitrous districts often show hyperplasias of the thyroid, the histologic changes of which they describe in detail; but they were unable to establish that this change depends on "goiter water" or any other single factor. They conclude that it is best explained "through the direct action of one or several goiter poisons on the thyroid;" but they do not determine the nature of these hypothetic "goiter poisons." They do find, however, that minute doses of iodids protect the rats from goiter.

Medicolegal

Legal Quarantine of Diseased Prostitute

(*Ex parte Brooks (Texas), 212 S. W. R. 956*)

The Court of Criminal Appeals of Texas dismisses a writ of habeas corpus, and remands to custody the relator, who sought to secure her release from custody under an order issued by the director of sanitation in the United States Public Health Service who was also the chief health officer of the city of Houston, which order stated that the relator had been examined and was infected with syphilis and was ordered into quarantine at the municipal farm, there to be detained until released by order of the health officer. The court holds wholly unsupported and negatived by the facts the contention that the health officer had no right or power to act in the premises because he held two offices in derogation of the provisions of the state constitution. Nor was there anything suggested by the statement of facts which supported the contention that the farm was not a suitable place for such patients, was too remote from the city and transportation and the friends of the relator. Nor was anything presented for decision by the contention that there had been numerous tests given the relator since her confinement, and that some of them showed positive and some negative results. If she was free from syphilis or gonorrhea, she might present her application for a writ of habeas corpus to the local courts, and if free therefrom might be discharged. The courts will understand that the health officers have no right or power to hold in quarantine citizens who do not show the presence of some of the diseases named in Chapter 85 of the Acts of the Fourth Called Session of the Thirty-Fifth Legislature. It was claimed that the relator was denied treatment at the hands of other physicians than the city health officer, by the terms of the act; but the court finds nothing in the statute, or facts adduced and agreed to, to support such contention. The court has carefully examined all of the contentions of the relator, and holds them to be without merit.

The legislature has the power to declare that prostitution is a source of communicable diseases, and that its suppression is a public health measure, and to direct, by enactment, that reasonable steps be taken, in the manner, and with the latitude necessarily accorded to the enforcement of sanitary and health statutes, to suppress it. The discovery in patients of the diseases at which the provisions of Chapter 85 are directed is confided to the medical profession, and the care and treatment is of necessity in the hands of the members of the same noble fraternity. There is nothing in the act which prevents or forbids any suspect, or persons detained, from perfect freedom of treatment by any reputable physician while in the custody of the officials charged with the enforcement of the law; and nothing which deprives any persons so confined for treatment of a speedy hearing at the hands of the court if there is oppression or detention without cause. The object of the law is not punishment for the unfortunates who are afflicted with these maladies, so easily transmitted and so fearful in results, but the well-being of these and the remainder of the people.

In this case the relator was shown to be a married woman, with a hard-working husband and four children, the youngest being 18 months old; but she declined to live with them, stating that she preferred the life of the streets. Testimony was adduced showing numerous bestowals of carnal favors on soldiers and other persons, and also that the relator was afflicted with gonorrhea and syphilis. The court thinks the provision of the act that such patients should be confined

for treatment until declared cured by official pronouncement is not unreasonable, unjust or arbitrary. The court's attention was not called to any authorities holding this or other similar acts violative of any of the provisions of the state constitution, or discriminatory, arbitrary or unreasonable.

Communications Privileged and Not Privileged

(Arnold v. Ft. Dodge, D. M. & S. R. Co. (Iowa), 173 N. W. R. 252)

The Supreme Court of Iowa, in this personal injury case, holds that, where the defendant examined as a witness a physician who had aided another physician in the treatment of the plaintiff at the hospital immediately after his injury, questions which the defendant propounded to the witness as to what the plaintiff had told him as to the circumstances of the accident were properly excluded, on the ground of privilege under the statute, the physician being deemed to occupy at the time the relation of physician to the plaintiff as his patient. Nor was the privilege waived by the plaintiff by his testimony on cross-examination. Testimony thus given by the plaintiff on cross-examination is not deemed voluntary, and is therefore not a waiver. But it was different when inquiry was made of the witness as to conversations had with the plaintiff after the professional relation had ceased. Objection was made to this line of examination on the same ground as before, and this objection was also sustained. But the latter ruling cannot be approved. The defendant had a right to inquire into conversations had after the termination of the professional relation. These in the statutory sense were not confidential. The record, however, did not disclose in any way what the testimony of the witness would have been if the questions had been permitted; and the error therefore was not a reversible one.

Not Required to Keep Copy of Prescription

(Friedman v. State (Tenn.), 213 S. W. R. 418)

The Supreme Court of Tennessee reverses and dismisses this case in which defendant Friedman was convicted for the reason that he "did unlawfully distribute and dispense and prescribe morphin, without keeping a duplicate of the prescription as prescribed by law." The court says that he was not a salesman of the drug mentioned, but was a practicing physician. He prescribed morphin for a habitual user, after attending the patient, but kept no copy or duplicate of the prescription. A question to be decided was whether Acts 1913 (1st Ex. Sess.) Chapter 11, required him to do so. That portion of the act bearing on this subject reads:

"Physicians who shall dispense or distribute any of the aforesaid drugs provided by this act shall keep a duplicate of all prescriptions issued by them for a term of two years, and said duplicate shall be subject to inspection by any of the officers named in the preceding paragraph." Section 2.

It will be observed that it is not all physicians who are included within the provisions of this act. It is only physicians "who shall dispense or distribute any of the aforesaid drugs provided by this act, who shall keep a duplicate of all prescriptions issued by them for a term of two years." The act thus limits the number of physicians included within its terms. It is plain and unambiguous, and there is no room for construction. Therefore the court holds that the defendant did not violate this section of the act when he failed to keep a duplicate of the prescription, because he did not dispense or distribute the drug. The court is unable to comprehend how the defendant could be deemed a dispenser or distributor of the drug merely because he failed to preserve a duplicate of his prescription. The offense was not for issuing the prescription, because the defendant complied with every requirement of the law in that respect. The offense charged was failure on his part to keep a duplicate of the prescription, which he was not required to do under a proper construction of the act.

Counsel for the state ingeniously argued that the statute should be given the construction insisted on for the state, because of supposed conveniences to the agents of the state who check up the sale of habit forming drugs. The court may well admit the conveniences suggested, but a sufficient answer in law is that the statute does not include them. Therefore it could not matter in this case what meaning was to be attributed to the words "dispense" and "distribute," because the defendant was in no sense a party to a dispensation or distribution of the drug because he failed to keep a duplicate of his prescription. It was the prescription furnished the druggist on which he acted, and not a duplicate in the hands of a physician.

The case of *Hyde* v. *State*, 131 Tenn. 208, 174 S. W. 1127, is in no sense in conflict with this opinion. In that case Dr. Hyde issued a prescription without attending the patient. It was held that the prescription made him an aider and abettor in the sale, although the alleged patient was not in existence.

Requirements in Action for Malicious Prosecution of Lunacy Proceeding

(Barton v. Woodward et al. (Idaho), 182 Pac. R. 916)

The Supreme Court of Idaho, in reversing a judgment that was rendered in favor of the plaintiff and in directing that a new trial be granted, in this action brought to recover damages for the alleged malicious prosecution of a lunacy proceeding, holds, to begin with, that such an action is not barred by the Idaho statute which limits to two years the time within which actions may be brought to recover damages for an injury to the person, or for libel, slander, assault, false imprisonment, etc. Then, taking up the contention that such an action would lie only where there had been a malicious prosecution of a criminal or civil action, the court says that, while there are authorities which go to the extent of so holding, the modern and better rule is to the effect that an action for malicious prosecution will lie against one who has maliciously and without probable cause instituted lunacy proceedings against another. But in a trial on the merits in a civil or criminal case, or in a lunacy proceeding, the question of probable cause is not passed on by the court, judge or jury; nor is it the criterion of the decision or verdict. The decision is on the merits and, if the defendant wins, it simply means that the plaintiff has not proved his case by the preponderance of the evidence or beyond a reasonable doubt. Therefore the verdict or decision has no logical bearing on the question of probable cause, and is not even admissible in evidence on that issue.

In this case it was shown that, prior to the making of the accusation, two reputable physicians, who had attended the plaintiff and thus had had recent opportunity to examine him and to judge of his mental condition, told one of the defendants, and he told the other, that the plaintiff was insane. It was also shown that, on an occasion when the plaintiff was before the Idaho state medical board, an applicant for a license to practice medicine and surgery, his conduct was such as to excite the suspicion of those who observed it, including one of the defendants, as to his mental balance; also, that shortly prior to his arrest on the insanity charge it came to the knowledge of the defendants that he had written prescriptions which were referred to in the record as "freakish," one of which was for strychnin in doses which, had one of them been taken by the patient for whom it was intended, would have proved fatal; another was for an eye wash which, had it been applied, would have ruined or destroyed the eyesight. On the lunacy hearing, the commission of physicians appointed to examine him reported that he was suffering from paranoia, but recommended that he be not restrained. The court concludes that the plaintiff did not sustain the burden of proof incumbent on him, and that no court or jury could reasonably find from the evidence that, in making the lunacy accusation against him, the defendants acted without probable cause. It was true that there was evidence which would justify a finding of malice, but want of probable cause cannot be inferred from malice.

The certificates of admission to practice medicine in other states, offered by the plaintiff and admitted in evidence by the trial court over the defendants' objection, were not admissible in the absence of evidence tending to show his

intention to engage in the practice there. They did not prove a right of the plaintiff to practice medicine in Idaho. They were not legitimate evidence of damage to his business; nor were they any evidence of damage to his reputation or his feelings. While not legally relevant or material, they were exceedingly prejudicial. They served to inject into the case a question of whether the refusal of the medical board to admit the plaintiff to practice in Idaho was right or wrong and prejudiced the defendants, as one of them was a member of the medical board and also filed a complaint against the plaintiff for practicing medicine without a license, acting under the orders of the medical board.

Not only does the court find no proof of want of probable cause in the evidence submitted by the plaintiff, but it holds that the defendants' motion for a nonsuit should have been sustained, though, since they did not rest on the motion, but introduced evidence, it was waived. And, since the defendants did not ask for a directed verdict at the close of the evidence, it was not incumbent on the supreme court to dispose finally of the case on this appeal. Costs were awarded to the defendants.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Ophthalmology, Chicago

December, 1919, **2**, No. 12

Treatment of Chronic Dacryocystitis. W. L. Benedict and R. A. Barlow, Rochester, Minn.—p. 843.
Six Meter Stereoscope. H. J. Howard, Peking, China.—p. 849.
Immediate Capsulotomy in Extraction of Senile Cataract. A. G. Bennett, Buffalo.—p. 854.
Paralysis of Accommodation Due to Focal Infections. C. A. Veasey, Spokane.—p. 858.
Accommodation in Lensless Eye. A. E. Davis, New York.—p. 860.
Assistants in Smith's Cataract Operation. A. E. Lister, London.—p. 865.
Tests for Determining the Sighting Eye. P. Dolman, Mineola, N. Y.—p. 867.

American Journal of Public Health, Boston

January, 1920, **10**, No. 1

Administrative Handling of Narcotic Addict: It's Benefit and Dangers. E. S. Bishop, New York.—p. 1.
New Specifications for Health Officers. M. Knowles and M. R. Scharff, Pittsburgh.—p. 8.
Public Health in Eastern Macedonia. P. D. White, Boston.—p. 14.
Preventive Medicine and War. M. P. Ravenel, Columbia, Mo.—p. 22.
Experimental Study of Efficacy of Gauze Face Masks. W. H. Kellogg, Sacramento, Calif.—p. 34.
Study of Toxicity of Diphtheria Bacilli Isolated from Immediate Contacts. F. W. Hachtel and M. S. Bailey, Baltimore.—p. 42.
Privy as Public Health Problem. L. L. Lumsden, Washington, D. C.—p. 45.
Development of State Departments of Health in Relation to Health Insurance and Industrial Hygiene. A. B. Wadsworth, Albany, N. Y.—p. 53.
Health Hazards of Nonpoisonous Dusts: Résumé of Recent Investigations. E. R. Hayhurst, Columbus, Ohio.—p. 60.
*Relative Importance of Milk Infection in Transmission of Certain Communicable Diseases of Man. E. K. Kelley and S. H. Osborn, Boston.—p. 66.

Importance of Milk Infection in Disease Transmission.—These studies are based on investigations by the district health office of the Massachusetts State Department of Health from 1915 to 1918, inclusive. Many of the conclusions tentatively formulated in a study by one of the authors (Kelley) three years ago are strengthened by this study, based on more complete epidemiologic data. It is believed that when the total aggregate of cases reported is considered, milk, while a dangerous factor and one of potential significance, does not assume any great quantitative factor as a channel of infection, provided prompt investigations are instituted as a routine procedure of all cases occurring on milk producing and milk handling premises. Milk, as a source of diphtheria, is practically negligible. Scarlet fever, though much more frequently transmitted by milk than is diphtheria, is milk borne in only a very small percentage of instances, as compared with other sources of infection. Milk borne typhoid is a more serious epidemiologic problem, 496 cases out of a total of 6,331 typhoid cases being attributed to this cause, or 7.7 per cent. Increased pasteurization ought to greatly decrease the percentage of frequency of milk borne cases. Although pasteurization plants have greatly increased in Massachusetts during the past four years, the relative proportion of total cases traced to milk, compared to the total cases reported, has remained about the same.

Boston Medical and Surgical Journal

Jan. 22, 1920, **182**, No. 4

Prostatism. F. L. Keyes, New York.—p. 79.
Difficulties in Diagnosis of Meningitis. H. W. Dana, Boston.—p. 84.
*Blood Plasma Chlorids versus Renal Function. W. C. Rappleye, San Francisco.—p. 89.
Institutional Control of Diphtheria. F. A. Finnegan, Boston.—p. 93.
*Two Cases of Fetal Asphyxia. C. J. Kickham, Boston.—p. 94.

Blood Plasma Chlorids versus Renal Function.—The blood plasma chlorids were determined by Rappelye in 104 patients showing no obvious evidence of compromising physical disease, the blood being drawn twelve hours after the preceding meal. No relationship could be established between the chlorid values and the blood urea nitrogen, rate of elimination of phenolsulphonephthalein, blood pressure readings or urine specific gravity. A small group of cases of so-called essential vascular hypertension seemed to show an elevated renal threshold for sodium chlorid. Attempts to lower the threshold have given no conclusive results.

Fetal Asphyxia.—In one of the cases reported by Kickham, the patient was on her way to the bathroom when she "felt something." This proved to be the new-born child, but the head had remained in the vagina. The infant was in a state of pallid asphyxia but with the fetal heart still audible. Efforts at resuscitation proved futile. The child died without breathing. In the second case, the woman had a precipitate birth of twins, having had only one sharp pain. One fetus was still within its amniotic sac, which had not ruptured, although the entire sac was outside of the vulva. The sac was ruptured at once, attempts were made to resuscitate the baby, but it died without breathing.

Canadian Medical Association Journal, Toronto

January, 1920, **10**, No. 1

Scope of Federal Department of Health. P. H. Bryce, Ottawa.—p. 1.
Constitutional Symptoms and Focal Infections of Genito-Urinary Tract. D. W. MacKenzie, Montreal.—p. 11.
Tuberculosis of Kidney and Ureter. W. Jones and R. Pearse, Toronto.—p. 28.
Indications for and Results of Transfusion. E. C. Levine, Montreal.—p. 34.
Spasmophilia (Infantile Tetany). L. M. Lindsay, Montreal.—p. 43.
Wounds of Chest. N. B. Gwynn and H. E. MacDermot.—p. 50.
Problem of Mentally Defective in Province of Quebec. G. S. Mundie, Quebec.—p. 63.

Colorado Medicine, Denver

January, 1920, **17**, No. 1

Workings and Improvements of Harrison Antinarcotic Law. A. G. Dingley, Denver.—p. 4.
Indications for Operative Treatment in Cranial Fractures. O. M. Shere, Denver.—p. 9.
*Splenic Anemia in Children. J. W. Amesse, Denver.—p. 12.

Splenic Anemia in Children.—A case of Banti's disease is reported by Amesse, occurring in a boy, aged 6 years. A splenectomy was done and the boy recovered. He has gained 20 pounds in weight, eats and sleeps well, and gives every promise of living out the natural span of life. An interesting feature in the case was the fact that the boy's mother, who was only 16 years of age when he was born, gave a clear history of an obscure disease, accompanied by pronounced anemia from her birth to her twelfth year. She was transfused from the husband at the time of the boy's birth for a puerperal hemorrhage without benefit.

Endocrinology, Los Angeles

October-December, 1919, **3**, No. 4

*Rôle of Pineal Gland in Pediatrics; Review of Literature. M. B. Gordon, Brooklyn.—p. 437.
Cooperation by Internist and Surgeon in Treatment of Exophthalmic Goiter. H. Lisser, San Francisco.—p. 454.

Early Synostosis of Epiphyses with Dwarfism in Pubertas Praecox. K. H. Krabbe, Copenhagen.—p. 459.
*Rational Therapeusis of Exophthalmic Goiter. I. Bram, Philadelphia. —p. 467.
*Hypophysial Diabetes. J. Koopman, The Hague, Holland.—p. 485.

Rôle of Pineal Gland in Pediatrics.—A review of the literature has convinced Gordon that it is exceedingly difficult to arrive at any conclusive opinion as to the functional activity of the pineal gland. There has been nothing substantial brought forward to show that it possesses an internal secretion. The experimental work has failed to prove that it possesses a function, and no experimental studies are so complete as to allow comparison with the very striking syndrome seen clinically. If the views of Horrax and others that the pineal gland controls the inhibition of sex growth were true, then pineal feeding should postpone adolescence, but observations by Dana and Berkeley and by McCord produced the opposite. On the other hand, if the feeding results of McCord are correct, then the extirpations of Dandy and Horrax ought to have brought overwhelming evidence of a pineal function. In the final analysis, Gordon says, it seems justifiable at the present time to state that our knowledge of the function of the pineal is more problematic than accurate.

Rational Therapeusis of Exophthalmic Goiter.—Bram claims that careful nonsurgical management is capable of completely and permanently curing the great majority of cases of hyperthyroidism. The occasional exception not responding to nonsurgical measures is not an instance of genuine exophthalmic goiter but is one of malignant degeneration of the thyroid gland, a case of toxic symptoms superimposed on a long standing nontoxic goiter, or a case brought to the clinician's attention in a moribund condition. Bram, in unison with others interested in thyroid therapy, does not hesitate to conclude that he has been able to cure every case of primary exophthalmic goiter in which a fair degree of cooperation was obtainable; this was accomplished in from six months to two years, depending on the exigencies of the case treated. Strict individualization of the case in hand is the dominating principle of treatment. The proper medical attendant, the proper social atmosphere, and the right kind of dietic, hygienic, medicinal, psychotherapeutic, electrotherapeutic and other measures properly applied for the required length of time should yield a permanent cure.

Hypophysial Diabetes.—While proof is lacking that the two cases reported by Koopman are cases of hypophysial diabetes, he believes it is probable that the hypophysis played an important part in them, as good results were obtained from the administration of hypophysis extract. Three times daily, a tablet corresponding to one tenth of the fresh gland of the cow was given. The effect was striking. The third day of the onset of the treatment 200 gm. of bread and 50 gm. of meat were tolerated without glycosuria. The fourth day 100 gm. meat and 200 gm. bread gave rise to a glycosuria of 16.4 gm. After a fortnight the protein tolerance was 200 gm. of meat. It has not been possible to increase this.

Illinois Medical Journal, Oak Park, Ill.

January, 1920, **37**, No. 1

Value of Military Surgery in Civilian Practice. G. W. Crile, Cleveland.—p. 1.
Artificial Pneumothorax. E. A. Gray, Chicago.—p. 7.
Attempt to Control Influenza in Illinois. J. J. McShane, Springfield. —p. 17.
Placental Hormone, a Physiologic Galactagogue. B. Van Hoosen, Chicago.—p. 22.
Pelvic Inflammations. H. N. Rafferty, Robinson.—p. 24.
Midwife Practice; An Anachronism. R. W. Holmes, Chicago.—p. 27.
Foundation Fund of Tristate District Medical Society in Outline. H. G. Langworthy, Dubuque, Ia.—p. 31.
Application to Civil Practice of Therapeutic Principles Established in Treating War Injuries to Thorax. J. L. Yates, Milwaukee.—p. 33.
Reciprocal Relation of Wisconsin with Her Neighbors. J. M. Dodd, Ashland, Wis.—p. 36.
Gunshot Wounds of Chest. J. F. Van Paing, Chicago.—p. 40.
*Enuresis in Adult Female; Surgical Treatment. F. C. Schurmeier, Elgin.—p. 43.
*Application of Pure Cocain for Nasal Anesthesia. A. H. Andrews, Chicago.—p. 48.

Surgical Treatment of Enuresis in Adult Female.—In one case, cited by Schurmeier, that of a young woman, aged 21 years, he performed the simple operation of freeing the urethra through the tunica propria, approximately five-eighths inch deep, gave the meatus urinarius one half turn and sutured with interrupted fine silkworm. Four hours after the operation, the patient was catheterized and every eight hours afterward, for four days. She was now able to void urine with but slight discomfort. The urine was kept bland. She left the hospital at the end of two weeks with fairly good control over the urinary mechanism. Nine months passed, and the patient was greatly encouraged and anxious to have a second operation, which was calculated to make the surgical procedure 100 per cent. successful. Schurmeier performed the second operation. The urethra was freed as in the previous operation, a three-fourths turn was made and it was stitched as far back as possible, in the new position the urethra now had. The external closure was made as in the previous operation. The patient was catheterized four hours later, and every six hours thereafter for a few days; then the intervals were lengthened, until on the sixth day the patient was able to urinate in the normal way. After two weeks the patient left the hospital. She had good control over the urinary mechanism more than four years after the operation.

Use of Pure Cocain for Nasal Anesthesia.—The method Andrews has adopted is as follows: First, apply to the part to be anesthetized pencils of cotton saturated with from 1:1,000 to 1:5,000 solution of epinephrin. These pencils should be left in position for from five to eight minutes. After their removal, a small pledget of cotton is wound on an applicator and dipped in water or epinephrin solution. The excess of fluid is removed from the pledget by touching it to a towel. The damp pledget is then dipped into the powdered or flake cocain, and a small amount of the cocain is rubbed gently over the desired area. Removal of the excess of fluid from the pledget is important, for if the pledget is too wet, the fluid will run off into the remaining dry cocain and cause it to crystallize. If profound anesthesia is to be produced, a second application can be made after two or three minutes. Ordinarily, anesthesia is sufficient for examination or operation to be commenced immediately after the second application. The advantages claimed for the method are: It is safer than cocain solutions. The contracting effect of the cocain powder on the blood vessels seems to prevent its absorption. The anesthesia is more prompt, more profound, and more lasting. The small amount of cocain required is advantageous both from the standpoint of safety and economy. From one-fourth to one-half grain of flake cocain is sufficient to anesthetize both side of the septum for a submucous resection.

Iowa State Medical Society Journal, Des Moines

January 15, 1920, **10**, No. 1

*Chronic Nephritis in the Young. W. L. Bierring, Des Moines.—p. 1.
Pathology of Intestinal Obstruction. M. J. Kenefick, Algona.—p. 5.
Symptoms of Intestinal Obstruction. W. A. Rohlf, Waverly.—p. 7.
Treatment of Acute Intestinal Obstruction. W. W. Bowen, Fort Dodge. —p. 9.
Hereditary Syphilis. C. L. Barewald, Davenport.—p. 14.
Laboratory Service of Divisional Laboratories. L. A. Fritze.—p. 16.

Chronic Nephritis in the Young.—The ages represented by Bierring's cases are 11, 15, 18 and 23 years, respectively. The onset in each instance was gradual and insidious; the distinctive subjective symptoms were severe headache, nausea, vomiting, polyuria, loss of weight and strength; albuminuria with casts, in a urine of low specific gravity; cardiac hypertrophy and arterial hypertension prevailed as the clinical signs. In the oldest patient a marked peripheral arteriosclerosis was present. A preceding acute nephritis could not be established in any of the cases. The familial tendency was noted in three cases. In one case the father died at 33 years of age of a sudden death similating apoplexy, in a second case the mother died at 32 years of age of nephritis, and in the third case examination of an aunt of the patient, 31 years of age, and an uncle, 40 years of age,

revealed a condition of chronic nephritis with hypertension, death occurring in each instance from cerebral hemorrhage. Only two of the four patients remained under observation long enough to permit instituting any definite plan of treatment. Active eliminative measures, rest, restrictions in diet, with vasomotor relaxants, produced some improvement in symptoms, but apparently did not influence the course of the disease or avert the fatal outcome. Necropsies were not permitted.

Kansas Medical Society Journal, Topeka

January, 1920, **20**, No. 1

Lethargic Encephalitis. A. L. Skoog, Kansas City.—p. 1.
Etiology of Recent Influenza Epidemic. R. H. Major, Rosedale.—p. 4.
Physician and Health Officer. W. H. Wells, Coffeyville.

Journal of Parasitology, Urbana, Ill.

December, 1919, **6**, No. 2

North American Myxosporidia (in Fish). H. B. Ward, Urbana.—p. 49.
*Experiments with Steam Disinfectors in Destroying Lice in Clothing. R. H. Hutchison, Washington, D. C.—p. 65.
Two New Proteocephalidae (in Fish). E. C. Gaust, Peking, China. —p. 79.
Resistance to Desiccation of Intermediate Host of Schistosoma Japonicum Katsurada. W. W. Cort, Baltimore.—p. 84.
*Mouse Oxyurid, Syphacia Onvelata, as a Parasite of Man. W. A. Riley, Minneapolis.—p. 89.
Dioctophyme Renale in Dogs. G. B. Wislocki, Boston.—p. 94.
Sarcosporidiosis in an East Indian. S. T. Darling, San Paulo.—p. 98.
Concentric Bodies, Probably of Parasitic Origin, in the Australian Sea Mullet, Mugil Dobula. J. B. Cleland, New South Wales.—p. 102.

Destroying Lice in Clothing.—The observations reported by Hutchison show that if the penetration of steam is sufficient to produce a temperature of 75 C. (167 F.) in the center of a barracks bag (or other load of infected goods) all eggs and active stages of body lice will be destroyed. If the disinfectors are operated efficiently on the time schedule now employed (viz., a 10 inch preliminary vacuum; 15 pounds steam pressure for fifteen minutes, reckoned from the time the steam is turned on; followed by a 10 inch drying vacuum), the requisite temperature (75 C.) is attained in every case. By efficient operation is meant (1) the maintenance of a full head of steam so that the 15 pounds pressure in the disinfector is produced within five minutes, thus allowing at least ten minutes for exposure; (2) overloading must be guarded against; (3) the individual bundles must not be rolled too tightly. Little, if any, shrinkage of woolen goods is caused by this treatment. There is, of course, some wrinkling, but these wrinkles are not permanent and may be remedied by pressing.

Mouse Oxyurid in Man.—The parasite described by Riley was found in the feces of an American-Bohemian child living in Zamboanga. She was one of a family of five, all of whom were heavily infested by the worm in question. From the available data, it was evident that the food of the child and of others of the family had been grossly contaminated by mice or rats. This accounts for the infestation by one of the commonest nematode parasites of these rodents. Incidentally, it furnishes circumstantial evidence in favor of the view that *Hymenolepis nana* of man and *Hymenolepis murina* of rodents are one and the same species, as has been claimed, on morphologic grounds, by various investigators.

Michigan State Med. Society Journal, Grand Rapids

January, 1920, **18**, No. 1

Treatment of Infected Wounds with Demonstration of the Carrel-Dakin Technic. C. B. Gardner, U. S. Army.—p. 1.
Case of Bilateral Cavernous Sinus Thrombosis from a Carbuncle on Nape of Neck in Latent Influenza. L. B. Stegman, Battle Creek. —p. 9.
Treatment of Septic and Injured Joints. F. C. Kidner, Detroit.—p. 16.
Nontuberculous Pleurisy. J. S. Prichard, Battle Creek.—p. 20.
Résumé of Series of Cases of Ectopic Gestation and Ruptured Graffian Follicle. C. D. Brooks and W. R. Clinton, Detroit.—p. 22.
Commoner Clinical Types of Acute Pulmonary Edema and Their Treatment. W. H. Marshall, Flint.—p. 23.
Address Delivered at Fiftieth Anniversary of Detroit Academy of Medicine, Dec. 9, 1919. W. P. Manton, Detroit.—p. 26.
Value of Ophthalmoscope in Diagnosis and Prognosis of Systemic Disease. D. E. Goodwin, Houghton.—p. 31.
Importance of Physical Findings in Late Syphilis. Case Report. A. M. Crance, Bay City.—p. 33.
Gunshot Wound of Bladder. B. H. Van Leuven, Petoskey.—p. 35.

Military Surgeon, Washington, D. C.

January, 1920, **46**, No. 1

*Nonspecific Immunity. V. C. Vaughan, Ann Arbor, Mich., and G. T. Palmer, Springfield, Ill.—p. 1.
Organization, Function and Operation of an Evacuation Hospital. E. C. Cutler, M. C., U. S. Army.—p. 9.
Physical Reconstruction in Army Hospitals. H. M. Evans, M. C., U. S. Army.—p. 33.
Air Medical Service and the Flight Surgeon. L. H. Bauer and W. MacLake, M. C., U. S. Army.—p. 40.
British Ambulance Trains. F. L. Pleadwell, M. C., U. S. Navy.—p. 51.
Case of Penetrating Wounds of Chest at Base Hospital. H. McCulloch and W. Fischel, M. C., U. S. Army.—p. 59.
Mumps: Its Etiology, Mode of Transmission. C. Wesselhoeft, M. C., U. S. Army.—p. 63.
Paraffin-Wax Treatment of Burns, with Special Reference to Mustard Gas Burns. J. S. Taylor, M. C., U. S. Army.—p. 83.
Series of One Hundred and Fifty-nine Mastoid Operations at Fort Riley. P. D. MacNaughton and G. W. Swift, M. R. C., U. S. Army. —p. 94.
Mastoid Operation Under Local Anesthesia; Report of Four Cases. E. D. Twyman and A. A. S. Giordano.—p. 101.

Nonspecific Immunity.—Is there any scientific evidence of the possibility of the development of a nonspecific bacterial immunity, or increased resistance to infection, is the question discussed by Vaughan and Palmer. The basis of their remarks is, in the main, the work done by the late Victor C. Vaughan, Jr., and first reported as early as 1905. The authors believe that it is an established fact that an increased tolerance to the protein poison can be established, that it is nonspecific and that no antibody is generated. Further, it is evident that a nonspecific bacterial immunity, never reaching a degree comparable with that attainable in toxic immunity, but certainly affording protection beyond that usually present, is secured by repeated introduction of the protein poison into the body. Vaughan and Palmer do not believe that this nonspecific immunity prevents infection with a newly imported virus, but that it mitigates the effects of this infection in some instances so markedly that no symptoms are recognizable, while in others its effects are shown only in the lower death rates among those possessing it. Animal experiments have shown that nonspecific immunity is of low grade. It protects quite securely against the minimum lethal dose of the culture, rarely against twice this amount, but beyond this it usually fails. However, this specific immunity, which the nonspecific form has enabled the individual to attain, may protect against from eight to twelve times the minimum lethal dose.

Minnesota Medicine, St. Paul

January, 1920, **2**, No. 1

Measure of Mentality. A. Sweeney, St. Paul.—p. 1.
Acute Mastoiditis. J. D. Lewis, Minneapolis.—p. 15.
Roentgen-Ray Examination in Eye Injuries with Foreign Body Localization. C. A. Donaldson, Minneapolis.—p. 18.
Mastoiditis, Acute and Subacute; Results in a Series of Operated Cases. H. I. Lillie and R. A. Barlow, Rochester, Minn.—p. 23.
Tuberculosis Work in Rural Communities. S. A. Slater, Worthington, Minn.—p. 25.
Organization of Military Hospitals; General Considerations with Reference to Treatment of War Wounds A. DePage, LaPanne, Belgium. —p. 29.

New Jersey Medical Society Journal, Orange

January, 1920, **17**, No. 1

Underlying Causes of Narcotic Habit. A. Lambert, New York.—p. 1.
Physicians in Selective Draft of State of New Jersey. H. B. Costill, Trenton.—p. 5.
Significance of Cardiac Pain. G. H. Lathrope, Newark.—p. 9.
Modern Heart Methods; A Valuation. H. Wallace, Montclair.—p. 13.

Pennsylvania Medical Journal, Athens, Pa.

January, 1920, **23**, No. 4

Medical Profession and New Workmen's Compensation Act of Pennsylvania. F. L. Van Sickle, Olyphant.—p. 182.
Sanitary Disposal of Sewage and Trade Wastes. C. A. Emerson, Harrisburg.—p. 186.
Application of War Surgery to Industrial Practice. D. Hinton, Philadelphia.—p. 188.
Proposed Health Insurance Legislation. J. B. Andrews, New York. p. 193.
Has Medical Profession Adequately Met Its Responsibilities? G. E. Tucker, Hartford, Conn.—p. 197.
Cost of Adequate Medical Service Under Health Insurance. J. A. Lapp, Chicago.—p. 201.
Medical Problems in Pennsylvania. J. B. McAlister, Harrisburg.— p. 216.
Sickness Problem and Workmen's Health Insurance. J. B. Andrews, New York.—p. 219.

The Sickness Problem. Is Social Insurance the Remedy? L. K. Frankel, New York.—p. 224.
Vaccine Therapy in Genito-Urinary Infections. J. L. Laird, Philadelphia.—p. 227.

Psychobiology, Baltimore

May, 1918, **1**, No. 6

Methods of Studying Controlled Word Associations. M. W. Loring, Baltimore.—p. 369.
Methods of Using Balanced Magnet Chronoscopes. K. Dunlap, Baltimore.—p. 445.
Influence of Distribution of Brightnesses Over Visual Field on Time Required for Discriminative Responses to Visual Stimuli. H. M. Johnson, Cleveland.—p. 459.

Rhode Island Medical Journal, Providence

January, 1920, **3**, No. 1

Advances in Surgery of Extremities During War. M. S. Danforth, Providence.—p. 1.
Child Welfare, Yesterday and To-Day. E. M. Gardiner, Providence.—p. 10.
Erythema Multiforme Following Diphtheria Antitoxin. D. L. Richardson, Providence.—p. 13.

Surgery, Gynecology and Obstetrics, Chicago

January, 1919, **30**, No. 1

Joint, Nerve and Other Injuries in War Surgery. R. Jones, Liverpool, England.—p. 1.
Care of Wounded Man in War. S. Bowlby, London, England.—p. 13.
Relation of Cancer to Prolongation of Human Life. W. J. Mayo, Rochester, Minn.—p. 22.
*Surgical Treatment of Exophthalmic Goiter. G. W. Crile, Cleveland, Ohio.—p. 27.
The Acute Abdomen. J. B. Deaver, Philadelphia.—p. 30
Empyema; Pathogenesis and Treatment. A. V. Moschcowitz, New York.—p. 35.
Physician and Surgeon in the Industrial Era. O. P. Geier, Cincinnati.—p. 44.
*Five Hundred Cases of Injuries of Peripheral Nerves at U. S. Army General Hospital No. 11. C. H. Frazier and S. Silbert, Philadelphia.—p. 50.
*Chronic Trigonitis in Female. H. E. Lindeman, New York.—p. 64.
Deeper Structural Changes Arising from Varicose Ulceration. D. H. Morris, New York.—p. 72.
*Recurrent Internal Hernia Following Gastro-Enterostomy. R. C. Bryan, Richmond, Va.—p. 82.
Case of Colloid Adenocarcinoma of Bladder. S. S. Barringer, New York.—p. 86.
Technic of Inguinal Herniotomy. E. P. Quian, Bismarck, N. D.—p. 88.
Improved Wire Splint for Congenital Clubfeet. A. J. Dalton, St. Joseph, Ill.—p. 92.
*Methylene Blue in Diagnosis of Acute Perforating Gastric and Duodenal Ulcers. H. L. Baker, Chicago.—p. 93.
New Wight-Harloe Empyema Shield and Closed Method of Applying It. J. S. Wight, and R. Harloe, New York.—p. 94.
*Rupture of Uterus with Peritoneal Encystment. S. B. Blakely, Binghamton, N. Y.—p. 95.

Surgical Treatment of Exophthalmic Goiter.—The conclusions presented by Crile as to the surgical treatment of exophthalmic goiter are based on his personal experience in 2,250 thyroidectomies of which 1,169 were for exophthalmic goiter; of the latter, 660 cases, or 56 per cent. were ligated. No patient was rejected for operation unless he or she was in the state of dissolution. In the last series of 331 thyroidectomies, 116, or 35 per cent. were first ligated, and no case was rejected. Among the 116 ligations there was only one death. The patient was in the early stage of dissolution and was delirious when the ligation was made. The downward course of this case was not arrested. The series of 1,169 thyroidectomies for exophthalmic goiter began with operations under ether alone, and with no special precautions. The mortality rate in these early cases was 16 per cent. After the adoption of anociation-nitrous oxid-oxygen and local anesthesia with the anesthetization of the patient in his room—the mortality rate fluctuated between 2 and 5 per cent, until by the adoption of a new system of management the mortality rate for all goiters among the last 331 thyroidectomies dropped to 0.6 per cent This number includes one series of 206 consecutive thyroidectomies without a fatality and 182 thyroidectomies for exophthalmic goiter with two fatalities, a mortality rate of 1.1 per cent. The new system of management consisted of the adoption of nitrous oxid-oxygen, the use of local anesthesia, the multiple stage operation, the exclusion of the psychic factor, and the application of the principle of carrying the operation to the patient. The operative procedures are graded according to the severity of the disease. In moderate cases the entire operation may be completed at one seance. In more severe cases the thyroid activity is diminished by preliminary ligation with the patient in bed, under nitrous oxid-oxygen analgesia and local anesthesia. In extremely grave cases it may be necessary to diminish the thyroid activity by multiple steps—ligation of one vessel; ligation of the second vessel; partial lobectomy; complete lobectomy—allowing intervals of a month or more between these stages, the length of each interval being determined by the degree of physiologic adjustment. If, during the operation, the pulse runs up beyond the safety point, the operation is halted, the wound dressed with flavine, and the operation completed after a day or two when conditions have again become safe. In some cases, even though the thyroid has been resected, it is advisable to dress the unsutured wound with flavine and make a delayed suture in bed the following day under analgesia. In certain cases lobectomy is performed while the patient is in bed and under nitrous oxid analgesia and local anesthesia. Crile insists that psychic control of the patient on the part of the surgeon, the intern, the anesthetist, and the nurse is required throughout to diminish the intense drive. An anociated regimen should be prescribed for the preoperative, interoperative and postoperative periods. The preoperative and the postoperative management are of almost equal importance to that of the operation itself. If, after the operation, the temperature becomes excessively high, with greatly increased pulse and respiration, the patient is packed promptly in ice. To avoid the effects of too sudden a withdrawal of thyroid secretion, thyroid extract is given the night before a lobectomy.

Peripheral Nerve Injuries.—The principles which governed Frazier and Silbert in dealing with their cases are summarized as follows: Liberation or neurolysis has been given preference in the absence of a complete anatomic division or a neuroma in continuity when after excising all scar tissue and laying bare the nerve sheath there is a quick response to faradism. Resection and suture are essential whenever neurolysis is contraindicated. Resection must be carried centrad and distad until healthy scar-free fasciculi are exposed. In bridging defects, the nerve transplant must not be employed until advantage has been taken of every other reasonable measure: to wit, nerve stretching, immediate or continued (as with sutures through bulbs), mobilization, transposition as of ulnar and musculospiral nerves, and, in exceptional instances, lateral implantation suture, such as implanting the ulnar or musculospiral nerves into the median. When these fail, a nerve transplant is justifiable, the autotransplant being the first choice, and homotransplant (preserved in liquid petrolatum, or 50 per cent. alcohol) the second choice. For autotransplant, the musculocutaneous or sural nerves of the leg, the radial or internal cutaneous nerves of the arm, may be selected on the basis of convenience. In nerve suture it is equally important to know what one ought not to do. In this category we include suture at a distance, the flap operation, bilateral anastomosis (as recommended by Hofmeister), and tubulization Sharp, clean dissection, careful hemostasis, the approximation of healthy fasciculi, without undue tension, represent the tripod on which the success of nerve suture rests. Tendon transplantation should be employed when suture fails and is particularly appropriate in residual palsies of the posterior interosseous, with inability to extend wrist or fingers, and anterior tibial palsies with resulting foot drop. The after-treatment should include (*a*) enforced fixation for a period of from four to six weeks with gradual straightening of the limb, (*b*) massage and galvanism until voluntary movement returns, (*c*) exercises varied according to the muscles involved and with a view of sustaining the interest of the patient.

Chronic Trigonitis in Female.—Lindeman reports the favorable results he has obtained from the injection of 2 per cent. quinin and urea hydrochlorid in the treatment of these cases.

Recurrent Hernia after Gastro-Enterostomy.—In the case reported by Bryan there was a hernia of the jejunum posterior to the gastrojejunostomy. At operation the intestines were simply pulled back.

Methylene Blue in Diagnosis of Gastric Ulcer.—Baker reports four cases in which he gave the patient 3 grains of methylene blue, dissolved in an ounce of water, for the purpose of making easier the location of the ulcer. In all, ten cases have been observed where methylene blue has been used.

Rupture of Uterus; Peritoneal Encystment.—The interesting features of Blakely's case are numerous attempts (7) to produce abortion; a traumatic rupture of the uterus with extrusion of a four months' fetus into the general peritoneal cavity followed by general peritonitis; recovery from the peritoneal infection, healing of the uterine tear, encysting of fetus, formation of a vaginal fistula; removal of a large portion of the fetal skeleton with indistinguishable soft parts five months later through the vagina; ultimate recovery.

Virginia Medical Monthly, Richmond

December, 1919, **46**, No. 9

Gastric and Duodenal Ulcers. C. R. Grandy, Norfolk.—p. 219.
Surgical Treatment of Gastric and Duodenal Ulcer. S. H. Watts, University.—p. 221.
*Case of Restoration of Bile Passage. J. D. Collins, Portsmouth. —p. 227.
Epidemic Lethargic Encephalitis; Etiology and Pathology. B. R. Tucker and S. W. Budd, Richmond.—p. 228.
Some Unique Facts Pertaining to the Medical Profession and the World War. B. C. Keister, Roanoke.—p. 232.

Restoration of Bile Passages.—In a case of complete obstruction of the common bile duct, Collins dissected out the tract of the fistula through the abdominal wall to the skin which remained from a previous operation. This fistulous tract became a well organized tube of connective tissue about one-quarter inch in diameter. A section of a No. 12 French soft rubber catheter was inserted into the open end of the fistulous tube for a distance of 2 inches. This was secured with one catgut stitch. Four inches of the rubber tube projected beyond the end of the fistulous tube. At a point opposite the margin of the liver a stab wound was made into the duodenum. The fistulous tube with the rubber tube projecting from its distal end was turned into the lumen of the intestine and the stab wound was closed with a pursestring suture. The intestine was then drawn up and sutured after the manner of the Witzel operation. The anastomosis was further strengthened by suturing over it a tag of omentum. The abdominal wound was closed without drainage. Recovery was quick and uneventful. The rubber tube was passed on the sixteenth day. A search through the literature disclosed only two cases where this method of repair was adopted, and both were unsuccessful.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

Jan. 3, 1920, No. 3079

Gunshot Fracture of Femur. A. Bowlby.—p. 1.
*Clinical Types of Abdominal Tuberculosis. K. W. Monsarrat.—p 5.
Sphenoidal Empyema and Epidemic Cerebrospinal Fever D. Embleton.—p. 7.
Sterility in the Male. K. Walker.—p. 10.
Significance of Position of a "Contraction Ring" in Extreme Pelvic Contraction with Vertex Presentation. C. D. Lochrane.—p. 11.
Cases of Rhinoplasty and Cheiloplasty. R. Parker.—p. 12.

Clinical Types of Abdominal Tuberculosis.—Monsarrat discusses tuberculosis of the ileum, cecum and rectum, and cites cases to illustrate the methods of treatment. He says that when tuberculous disease, either of the ileum or large bowel, is associated with definite intestinal obstruction, operation is always necessary, and the choice lies between exclusion by anastomosis and excision. If the obstruction is acute, exclusion by anastomosis is to be preferred; if the obstruction is subacute the exact local condition must decide. A mass that is easily isolated is better removed. When such tuberculous bowel lesions are not associated with obstruction, or with an obstruction that is chronic and capable of relief by aperient, the advisability of operation will depend on whether the bowel disease is or is not the sole demonstrable lesion in the body. If the lung is also affected it will probably be wiser to decide against operation. With regard to disease of the rectum, he knows of no actual evidence that a remedy is to be found in the establishment of an artificial anus. In one instance, this procedure added to the patient's discomfort without obvious benefit to the rectal condition. When the rectum is affected above the peritoneal reflection, and is associated with abscess, evacuation of the abscess by the intraperitoneal route is to be recommended, but except for the treatment of this complication, operation has no service to offer. Lastly, in selected cases, operation gives good results in limited tuberculous disease of the mesenteric lymph nodes. According to the extent and stage of the focus, this will take the form either of enucleation or of excision of the mesentery involved, together with the associated portion of intestine.

Indian Journal of Medical Research, Calcutta

July, 1919, **7**, No. 1

*Occurrence of Intestinal Protozoa in British and Indian Troops in Mesopotamia. C. L. Boulenger.—p. 1.
*Coma as a Cause of Death in Diabetes. D. McCay.—p. 22.
*Treatment of Diabetes in India. D. McCay.—p. 81.
*Pathology of Experimental Rabies. J. W. Cornwall.—p. 148.
*Pharmacodynamics of Quinin. II. Some Effects of Quinin on Kidneys, Suprarenals and Spleen of Healthy Rabbits. J. W. Cornwall.—p. 160.
*Pathogenesis of Deficiency Diseases. No. III. Influence of Dietaries Deficient in Accessory Food Factors on Intestine. R. McCarrison. —p. 167.
*Influence of Scorbutic Diet on Suprarenals. IV. R. McCarrison.—p. 188.
*Monkey Plasmodium (P. Semnopitheci); Experiments in Malaria. R. Knowles.—p. 195.
*Association of Bacillus of Hoffmann with Diphtheria in India. R. Knowles.—p. 203.
*Cultural Methods of Gonococcus. G. C. Maitra.—p. 219.
Studies in Ankylostomiasis: A Criticism. C. Lane—p. 223.
Technic of Levitation Methods. C. Lane—p. 228.
*Presence of Acid-Fast Bacilli in Blood of Lepers K. R. K. Iyengar. —p. 235.
Standardization of Bacterial Suspensions. H. C. Brown—p. 238.
Possible Spread of Schistosomiasis in India. S. Kemp and F. H. Gravely.—p. 251.

Intestinal Protozoa in Troops in Mesopotamia.—The total number of persons examined by Boulenger was 1,378. The cases consisted of acute dysenteries (i. e., with blood and mucus in the stools), colitis and diarrhea, as well as a number of convalescents passing more or less normal stools. The following parasites were found: *Endameba dysenterica* was found in 201 cases; *Endameba coli* in 264 cases; *Giardia (Lamblia) intestinales* in 133 cases; *Trichomonas intestinalis* in 111 cases; *Chilomastix* (tetramitus) *mesnili* in sixty-eight cases; and *Coccidun* (isospora) in eight cases. Only one outbreak of bilharziosis occurred among the troops in Mesopotamia up to August, 1918, seventy-one of the Indian personnel of a general hospital having become infected with *Schistosoma hematobium*. The results of an investigation of the Arab population of Mesopotamia showed that the disease was common throughout the country, both in the Tigris and the Euphrates districts: the average infection by *Schistosoma hematobium* was approximately 20 per cent. of the male Arabs examined. The mollusk *Bullinus contortus*, known to be the second host of the parasite in Egypt, was found in Mesopotamia, but does not seem to be of common occurrence in that country.

Coma as Cause of Death in Diabetes.—An analysis of the blood was made by McCay in practically all cases of diabetes, with or without albuminuria, all cases of kidney diseases with or without uremia, and also in a large number of perfectly normal individuals. The absence of any well marked signs of acidosis, either during the course and treatment of diabetes, or even in the terminal coma, raised the authors' suspicions that the coma, as a terminal phenomenon in the type of diabetes prevalent in India, was not identical with diabetic comas as seen in Europe. Other considerations pointed to the probability of the coma being uremic. He could find no essential difference between the chemical condition of the blood in patients with uremia and in patients dying in coma who had been suffering from diabetes, except for the presence of hyperglycemia in the latter, and this, he

says, can hardly be regarded as a cause of coma. Again, the outstanding feature of these dying diabetics was the great increase in the nonprotein nitrogen of the blood. Acetone, urea, phosphates, etc., may be increased to a greater or less extent, but the signs of acidosis are far too slight to enable one to ascribe the coma to any ill effects caused by a meager retention of acetone bodies in the blood. McCay, therefore, arrives at the conclusion that the functional derangement of the kidney that accompanies diabetes is the all important factor in producing the necessary conditions of the blood that lead to coma and death.

Treatment of Diabetes in India.—The treatment of diabetes in India, McCay says, resolves itself into the treatment of diabetes levis, or the milder forms of the disease met with in European countries. On the whole, it is even a less serious and less fatal condition than the ordinary diabetes levis of Europe as it does not present the same tendency to progress or to become complicated with severe acidosis and diabetic coma. McCay has not met with a single case, among the hundreds treated or seen by him, in which proper dietetic measures failed to clear the urine of sugar and keep it clear.

Pathology of Experimental Rabies.—Owing to the growth of the rabies organism in the central nervous system, Cornwall claims that irritative stimuli pass along the splanchnic nerves to the suprarenals and liver and give rise to the discharge into the blood stream of an excess of sugar. There may or may not be an accompanying excessive secretion of epinephrin. Much damage is caused both to the kidneys and to the suprarenals by toxic agents in the blood derived from the growth of the rabies organism in the central nervous system.

Pharmacodynamics of Quinin.—Cornwall presents evidence that quinin administered to healthy rabbits intravenously and intramuscularly over a period of eight or nine months causes damage to the cellular elements of the suprarenals and kidneys. There is also evidence that the rate of disintegration of red blood cells in the spleen is increased.

Pathogenesis of Deficiency Disease.—Dietaries deficient in accessory food factors McCarrison found give rise in pigeons and in guinea-pigs to congestive and atrophic changes in all coats of the bowel, to lesions of its neuromuscular mechanism, to impairment of its digestive and assimilative functions, and to failure of its protective resources against infection. The functional perfection of the gastro-intestinal tract is dependent in considerable measure on the adequate provision of accessory food factors derived from fresh fruit and vegetables. Certain gastro-intestinal disorders in the human subject—of which three examples are referred to—may owe their origin to the long continued subminimal supply of accessory food factors.

Influence of Scurvy Diet on Suprarenals.—According to McCarrison, a scorbutic diet gives rise in guinea-pig to (1) an increase in size and in weight of the suprarenals; (2) a marked diminution in the epinephrin content of these organs; (3) hemorrhagic infiltration of the suprarenals, usually circumscribed in extent and situated around the periphery of the suprarenal cortex; and to (4) degenerative changes in the cellular elements of the suprarenal cortex and medulla. The impairment of suprarenal function occurs before clinical evidences of scurvy manifest themselves.

Hoffmann Bacillus and Diphtheria in India.—The bacillus of Hoffmann was found by Knowles in 30 per cent. of cases of diphtheria; in 11 per cent. of diphtheria carriers, showing the true Klebs-Loeffler bacillus; in only 0.4 per cent. of healthy throats among European children during an epidemic; and in only 5 per cent. of the throats of 103 Indians in the absence of any epidemic. The bacillus of Hoffmann was met with (a) before, (b) with and (c) after the presence of the true Klebs-Loeffler bacillus in the same throat. While the two organisms appear to be entirely different as regards morphology, cultural reactions and pathogenicity to animals, yet it is suggested by Knowles that there is a symbiotic relationship between them that the rarity of the bacillus of Hoffmann in India may be associated with the relative rarity of diphtheria in epidemic form. Reverse conditions hold in temperate climates.

Cultivation of Gonococcus.—Maitra claims that the gonococcus is best cultivated under reduced oxygen tension. Primary cultures grow equally well on Loeffler's blood serum or urine agar with egg yolk provided a fair amount of purulent exudate is used. Subcultures grow better on Loeffler's blood serum. Bacterial yield can be augmented by adding fresh serum, preferably human serum. Human serum, heated to destroy its bactericidal properties, gives no advantage over fresh serum in promoting growth of gonococcus: probably the vitamin content is destroyed to some extent by heating.

Acid-Fast Bacilli in Blood of Lepers.—Acid-fast bacilli, agreeing morphologically with the leprosy bacillus, were demonstrated by Iyengar in a considerable proportion (7) of blood films made from forty lepers. The presumption is that these are present in the blood itself, although there remains the possibility of their having been derived in the process of venipuncture. The skin, however, at the site of puncture showed no sign of leprous affection. The possibility of the presence of acid-fast bacilli in the reagents used has been excluded by the use of the blood of healthy persons as controls. Iyengar suggests that examination of the blood may be used with advantage as a routine method of diagnosis in cases of suspected leprosy. It is possible that this examination may sometimes afford evidence of the affection when the ordinary method of examination has failed.

Indian Medical Gazette, Calcutta

December, 1919, **14**, No. 12

Recent Researches on Hookworm Infection in Indonesia. S. T. Darling.—p. 446.
Surgical Problems and Difficulties in the Tropics. D. J. Harries. —p. 453.
Tetanus. A. J. Noronha.—p. 455.
Generalized Vaccina in Burma. S. Rama Iyer.—p. 459.
Case of Ruptured Abdominal Wall. Gokulananda De.—p. 460.

Japan Medical World, Tokyo

Dec. 14, 1919, No. 313

Physiologic and Pathologic Examination of Nerves and Muscles of Domestic Fowl Suffering from So-Called "Polished Rice Disease." K. Paguchi.
Action of Epinephrin Against Glycogen Ferment and Diastase. H. Maruyama.
By-Effects of Mercurials in Treatment of Syphilis, Especially Appearance of Albumin and Casts in Urine. S. Ishiwara.

Dec. 21, 1919, No. 314.

Chemically Separated Human Serum Albuminous Substances and Their Precipitation Reaction. K. Taguchi.
Antipyretics that Can Be Used in Treatment of Phthisis. H. Uchida.

Journal of Mental Science, London

October, 1919, **65**, No. 271

Psychiatry One Hundred Years Ago: Problems of To-Day. B. Pierce.—p. 219.
*Goiter and Psychoses. N. R. Phillips.—p. 235
*Cytology of Cerebrospinal Fluid in Mental Disease. G. L. Brunton. —p. 249.

Goiter and Psychoses.—That the rôle played by goiter in the psychoses is more extended than is indicated, is the theme of Phillips' paper. Of 200 patients examined by him, the actual proportion of goiter was 12 per cent. No less than seventeen of these patients suffered from manicdepressive insanity or from the melancholia of involution, i. e., 70 per cent. of the whole number. Of the remaining seven, four were cases of dementia praecox and three were cases of paranoia. Phillips believes that those cases show that the nature of the psychosis is, in some degree, determined by the form of the functional disturbance of the thyroid gland, e. g., hyperthyroidism is usually associated with states of excitement, agitation, etc. (manic-depressive insanity), whereas hypothyroidism is more often associated with states of apathy and indifference (dementia praecox).

Cerebrospinal Fluid in Mental Disease.—In the examination of the cerebrospinal fluid as an aid in the diagnosis of mental disease, Brunton finds that Alheimer's method is the best for the cytologic examination. The cells of the great-

est diagnostic importance are the plasma cell, the phagocytic and the endothelial cell, and the lymphocyte in excess. A high cell count, with an excess of lymphocytes together with the presence of plasma cells, is strong evidence of a parasyphilitic lesion.

Journal of State Medicine, London

December, 1919, **27**, No. 12

Predisposing Causes of Pulmonary Tuberculosis. L. S. T. Burrell. —p. 353.
The Welsh Sanitary Section: Its Work on Active Service. D. L. Williams.—p. 361.

Journal of Tropical Medicine and Hygiene, London

Dec 15, 1919, **22**, No. 24

Cases of Elephantiasis of Scrotum, and Others. W. E. Masters. —p. 221.

Lancet, London

Jan. 3, 1920, **1**, No. 5027

Surgery of Heart. C. Ballance.—p. 1.
Aims of Welsh National Medical School. E. L. Collis.—p. 6.
*Serum Diagnosis of Syphilis. F. C. Lewis.—p. 11.
*German Bullet Embolus. H. J. B. Fry.—p. 13.
*Malaria and Insanity. A. T. W. Forrester—p 16
Bone Deformities of Renal Dwarfism H. Barber.—p. 18.
*Improved Technic for Staining Sputum for Tubercle Bacilli. A. Distaso.—p. 19.
Resection of Rectum for Cancer. P. Lockhart-Mummery.—p. 20.
*Direct Infection in Tuberculosis E. Ward.—p. 22.
India Rubber Wound Drains. A Edmunds.—p. 25.
Actual Cautery in Gastric Ulcer. J. Kirkland.—p. 26.
Gunshot Wound of Larynx with Impacted Foreign Body. J. Walker Wood.—p. 27.
*Enteric Cyst Causing Intussusception. C. W. G. Bryan.—p. 28.

Standardizing Serum Diagnosis of Syphilis.—The method suggested by Lewis for the standardization of red blood cells and complement is as follows: The blood is collected, defibrinated, washed and deposited in the usual manner. The deposited red cells are then mixed with three or four times their volume of physiologic sodium chlorid solution. A 25 or 50 gm. specific gravity flask is weighed accurately (*a*) dry and (*b*) filled with physiologic sodium chlorid solution. This solution is then thrown out and replaced with the heavy suspension of red cells and is reweighed. In these weighings the usual precautions are taken, such as the accurate filling of the flask, and the weights are taken at 60 F. This latter is accomplished by immersing the specific gravity bottle, solution and suspension in a water bath at 60 F. The relative weight of the red blood cell suspension against physiologic sodium chlorid solution at a constant temperature is thus calculated, and this can be utilized as a basis for the further dilution of the suspension. This method is not a true specific gravity method. Lewis has found that a relative volume weight of 1.0040 is a suitable dilution for use, and that the minimum hemolytic dose of complement based on such a suspension of red blood cells gives a good range of results in weak positive, positive and strongly positive cases.

A German Bullet Embolus.—This case is recorded by Fry as a remarkable instance of the migration of a rifle bullet in the venous blood stream. There was a small oval wound of entry one-half inch below the left anterior superior iliac spine. The bullet entered the vascular system by gouging the posterior aspect of the left external iliac artery and penetrating into the lumen of the left internal iliac vein, causing an arteriovenous aneurysm of these vessels. From this position the bullet was carried up the common iliac vein and the inferior vena cava. It passed through the chambers of the right side of the heart, through the pulmonary valve into the left branch of the pulmonary artery where it impacted as an embolus in one of the branches supplying the lower lobe of the left lung, thereby causing two infarcts in this lobe. For a week, the patient's general condition remained good. Ten days after its receipt the wound was almost healed, but gangrene of the left leg was complete and the leg was therefore amputated below the knee. Finally, the patient became delirious and he died in coma, one month after the receipt of the wound. The case is discussed in detail.

Malaria and Insanity.—Forrester states that in Macedonia malaria was reckoned as the biggest factor in the causation of mental disease among the troops. Indeed, the admission rate of the latter was almost an exact parallel of the malaria curve. Altogether, during ten months, there were 116 admissions to the mental department, each patient giving a positive malarial history. In thirty-two cases the mental symptoms were in association with an actual attack of malaria, and in eighty-seven cases the mental symptoms were the result of repeated attacks.

Improved Technic for Staining Sputum for Tubercle Bacilli.—It is claimed by Distaso that his method overcomes some of the difficulties and raises the percentage of positive results by at least 25 per cent., besides affording a film which is restful to the eye and easy of manipulation. It takes less time in execution than the ordinary method. The method allows for twice the usual amount of sputum, secures the easy solution of the tough mucopurulent pellets, and gives an even film and a very transparent counterstain. A thick portion of the sputum or several mucopurulent pellets are selected and transferred to the slide. One drop of 5 per cent. sodium hydroxid solution is added and the sputum emulsified, with the aid of heat, into a transparent gelatinous mass, which is spread evenly and set to dry in the incubator. When perfectly dry, it is immersed in fuchsin, warmed to incubator temperature, and allowed to remain in the incubator for fifteen minutes. It is then washed in equal parts of Esbach solution and water, decolorized with 25 per cent. nitric acid until faintly pink, and then washed in water, in 60 per cent. alcohol, and then again in water. The counterstain used is malachite green one part of saturated alcoholic solution in nineteen parts of water, for from thirty to sixty seconds, and the slide is rinsed and dried.

Direct Infection in Tuberculosis.—As bearing on the subject under discussion Ward cites the case of a girl, aged 20, living on an isolated farm, who developed acute tuberculosis and died within three months after the onset of the disease. Taking a history in the usual way, there did not seem to be any likelihood that she had been in contact with another case of tuberculosis, but on examining, among others, a brother, who seemed breathless, and an aunt staying in the house, who had a cough, both showed physical signs of pulmonary tuberculosis. The aunt's sputum contained tubercle bacilli; the brother refused to send his sputum away for fear the result might interfere with his dairy work. Apart from a home examination, Ward says, these two cases would never have been discovered.

Enteric Cyst Causing Intussusception.—In Bryan's case, the cyst was situated in the antimesenteric wall of the ileum close to the ileocecal valve. It filled the lumen of the intestine, two thirds being in the ileum and one third in the cecum. The intussusception occurred in the terminal portion of the ileum. Two operations were performed, owing to the condition of the patient during the first operation. This was terminated hastily with a later anastomosis between the cecum and ileum, the cyst having been punctured and emptied. At the second operation the cecum, six inches of ileum and the lateral anastomosis performed at the first operation together with the cyst, were excised and an end to end anastomosis was made between the colon and ileum. The patient, aged 6 years, made a complete recovery.

Practitioner, London

January, 1920, **104**, No. 1

Grave Familial Jaundice of Newly Born. H. Rolleston.—p. 1.
Medicolegal Notes. J. Collie.—p. 8.
Venereal Diseases as We See Them To-Day. J. E. R. McDonagh. —p. 14.
Case of Intramine Dermatitis. A. R. Fraser.—p. 40.
Four Cases of Foreign Body in Esophagus. H. L. Whale.—p. 42.
Sycosis Barbae. H. C. Semon.—p. 48.
Varieties and Treatment of Retroversion of Uterus A. A. Bourne. —p. 59.
*An Undiagnosed Disease Probably of Infectious Nature. C. F. O. White.—p. 70.
Method of Draining the Stomach when the Pylorus is Not Obstructed. D. M. Macleod.—p. 73.

Undiagnosed Disease.—The four patients seen by White presented the same symptoms, slight elevation of tempera-

ture, never exceeding 100 F. and of only one day's duration; a rash consisting of flat circular papules, rarely vesicles or blebs, not fading entirely on pressure, the size of a pea and slightly larger, first most pronounced on the wrist and forearms and then beginning to appear on the chest, thighs and legs. Later, White saw many more such cases, from six to eighteen every day. The onset was usually sudden, with severe frontal headache, giddiness or actual fainting while on parade, the patients all being soldiers on duty in India, and members of a recently arrived English regiment. Severe pruritus was a prominent symptom in about one half the cases. White was unable to arrive at a diagnosis.

Archives Mens. d'Obstétrique et de Gynécologie, Paris

November, 1919, **8**, No. 11

*Preferable Incisions for Laparotomies. E. Rouffart.—p. 577.
*Radium Treatment of Cancer of Uterine Cervix. P. Degrais.—p. 623.

The Laparotomy Incision.—Rouffart devotes nearly fifty pages to arguments for and against the various incisions in vogue, describing nine longitudinal or slanting incisions and three transverse methods. In his compilation of 1,506 new cases of the transverse incision, eventration developed only in 0.33 per cent. and in these cases there had been suppuration in the abdominal wall in all but one. Suture of a median longitudinal incision should always be reenforced with muscle tissue from the rectus. Other longitudinal incisions compel section of nerves to such an extent that the nutrition of the tissues is seriously compromised. All his arguments sustain the superiority of the transverse incision whenever practicable for gynecologic and obstetric laparotomies.

Radium Treatment of Cancer of Uterine Cervix.—Degrais declares that curietherapy, as he calls it, is emerging from the empiric stage. When surgery is impotent, then radium has a unique rôle, also in preparing cancers for operation and as a sequel to operation. He uses doses ranging from 27 to 200 millicuries, with filters of from $\frac{3}{10}$ mm. platinum to 1 mm. silver, with exposures of from forty-eight to seventy-two hours. He gives no figures, but adds that there is scarcely a single case in which some benefit from the radium was not apparent.

Bulletin Médical, Paris

Dec. 6, 1919, **33**, No. 54

*Jaundice in Secondary Stage of Syphilis. L. Giroux.—p. 739.

Jaundice in Secondary Stage of Syphilis.—Giroux remarks that testing the fragility of the blood corpuscles explains the hemolytic origin of the jaundice, anemia and enlarged spleen, without disturbance in the general health, which are sometimes observed in the secondary phase of syphilis. The jaundice may be due to hemolysins in the blood, but in either case the disturbance is mild and subsides in a few weeks or months, as also the jaundice after arsphenamin treatment. The nature of the latter is being disputed just now, as also the indications for treatment. Some advise to suspend, others to push the arsphenamin when jaundice develops. Sicard says that an increase in the urea content of the blood under arsphenamin should warn of impending jaundice.

Bulletins de la Société Médicale des Hôpitaux, Paris

Nov. 21, 1919, **43**, No. 33

*Muscle Signs with Pulmonary Tuberculosis. P. Halbron and others. p. 973; Idem. P. Sainton.—p. 980.
*Necropsy after Induced Pneumothorax. R. Burnand.—p. 983.
Cancer of Face Simulating Actinomycosis. J. Nicolas, M. Favre and Massia.—p. 988.
Corrugated Senile Skin in Child of Two. Variot and Cailliau.—p. 989.
Signs of Latent Tracheobronchial Glandular Disease. P. F. Armand-Delille.—p. 995.

Muscle Signs of Pulmonary Tuberculosis.—Halbron and his co-workers examined 157 patients and fifty-two healthy controls for the abrupt local contraction of the trapezius and other muscles when the margin was suddenly pinched. This has been cited as a sign of a chronic tuberculous process in the lung on that side. The contraction across the muscle feels like a cord, and Lévy even contends that the absence of this *corde musculaire* or myo-edema excludes tuberculosis, or at least an active process. The myotonic reaction in the trapezius occurs normally on both sides; it is significant only when it is exaggerated on one side. The reflexes on percussion of the deltoid, pectoralis and supraspinatus are more pronounced on the diseased side. These muscle signs were pronounced in from 81 to 96 per cent. of the tuberculous examined, usually the active cases. The findings were positive only in 10 per cent. of the presumably healthy controls. These muscle signs are especially useful in dubious cases, and in suggesting a tuberculous origin for emphysema and chronic bronchitis. The reaction does not always correspond to the side with the most extensive lesions, but to the most active. Sainton greases with petrolatum the thumb and forefinger for pinching the muscle, and states that the myo-edema never lasts for more than eight to twelve seconds. It occurs most pronounced and persistent in typhoid, in chronic pulmonary tuberculosis, and in lead poisoning, and is a sign of impregnation of the organism with toxins. Lion reported positive findings even with intoxication from stenosis of the pylorus.

Necropsy after Induced Pneumothorax.—Necropsy showed the complete cure of the tuberculous cavity in the lung treated by induced pneumothorax for thirty months. Death was due to intercurrent influenzal pneumonia in the other lung. Slight tuberculous lesions in the latter had healed likewise. The healed tuberculous lesions were of the torpid, cheesy type. Burnand's experience indicates that the minimum period for effectual collapse therapy in advanced cases is two or three years. He adds further that fourteen of his twenty pneumothorax patients passed unscathed through intercurrent influenza; six died.

Journal de Chirurgie, Paris

November, 1919, **15**, No. 4

*Pseudarthrosis of the Forearm. C. Dujarier.—p. 333.
Treatment of Compound Fracture of Lower End of Femur. G. Picot.—p. 351.
Treatment of Arthritis of the Ankle from War Wounds. P. Chutro.—p. 364.
*Mechanical Correction of Fractures. R. Bonneau.—p. 371.

Treatment of Pseudarthrosis of Forearm.—Dujarier obtained consolidation in 32 of his 36 cases of pseudarthrosis of the radius; in 16 of 19 of the ulna, and in all of the 15 cases in which both bones were involved, that is, a total of 90 per cent. successes. Sixteen illustrations show his technic. A bone and periosteum graft from the tibia was used to bridge large gaps. In 3 cases he cut the graft longer than the gap but the part that extended beyond the gap was cut thin and thus these ends embraced the stump, while the stumps rested on the thick cylinder between. In 3 cases the graft had been taken from the front of the tibia, and the tibia fractured later. He now chisels off the flap always from the internal aspect of the tibia, and sometimes cuts two flaps, a shallow and a deep one.

Correction of Displacement of Fractured Bones.—Bonneau's illustrations show his method of pulling up one stump into place with wire, and pushing the other stump down into place with a metal rod, both fastened to a standard bridging the lesion.

Paris Médical

Dec. 20, 1919, **9**, No. 51

*Roentgen Findings with Gastric Linitis. P. Carnot.—p. 481.
Severe Chlorotic Form of Trichocephaliasis. G. Mouriquand and Bertoye.—p. 486.
Short-Circuiting the Intestines for Chronic Stasis. V. Pauchet.—p. 489.

Gastric Linitis.—The symptoms may include stenosis of the cardia or insufficiency of the pylorus, or both, in addition to the rigidity of the stomach wall and the shrunken size of the organ.

Presse Médicale, Paris

Dec. 24, 1919, **27**, No. 79

*Leg Sign of Pyramidal Tract Disease. J. A. Barré.—p. 793.
*Complementary Factors of Growth, Etc. R. Thiébaut.—p. 795.

Pyramidal Sign.—Barré describes a leg sign of derangement in the pyramidal tracts which is more constant and instructive, he says, than any other sign known to date. The patient lies face down on bed or table, and the legs are flexed at the knee. He is told to hold the legs in this vertical position, but he is unable to do this in case of paresis from pyramidal disturbance, and the leg gradually sinks down more or less, although the muscles of the thigh can be seen contracting in order to keep the leg upright. This "leg maneuver" is negative with paralysis of hysteric or peripheral origin, and even with cerebellar disease, if the pyramidal tracts are intact. All other signs of pyramidal lesions are indirect, but this is direct, and the disappearance of the sign in the course of paraplegia indicates the return of volitional control.

Complementary Factors of Growth.—Thiébaut applies this term to what Collum and Davis call the secondary factors of growth and balance, and theorizes that they are indispensable to the action of diastases. The latter depends on the special distribution of the electrons on the surface of the colloidal substances. When the complementary factors are lacking, the molecular constitution of the colloidal mediums in which the diastases work becomes so modified that the diastases are unable to perform their specific function.

Revue Médicale de la Suisse Romande, Geneva

July, 1919, **39**, No. 7

The Organized Fight Against Venereal Diseases. M. Muret.—p. 309.
Influenza with Pulmonary Tuberculosis. R. Burnand.—p. 315.
*Sterilization by Roentgen Exposures of Ovaries. R. Guillermin. p. 326.
Cure of Tetanus under Chloral and Sodium Persulphate. T. Reh. —p. 337.

Sterilization by Roentgen Exposures of the Ovaries.—Guillermin declares that exposures to the roentgen rays form the simplest and least harmful means for arresting ovarian functioning in women with pulmonary tuberculosis. Even menstruation may have a decidedly unfavorable action on tuberculosis, inducing congestion and whipping up hemoptysis, so that there is every reason to suspend the functioning of the ovaries in such cases, to say nothing of the menace from a pregnancy. Bezançon long ago called attention to "these tuberculous women killed by their menstrual periods." In two cases he suppressed menstruation by fourteen and by four exposures. In the first case the menopause was complete; in the other there was merely arrest of menstruation, but this put an end to the monthly periods of fever and the recurring congestion, and this patient soon considered herself completely cured. The condition of the lungs in the other case also has materially improved.

Gazzetta degli Ospedali e delle Cliniche, Milan

May 15, 1919, **40**, No. 39

Treatment of Epidemic Meningitis. L. Nelli.—p. 377.

May 18, 1919, **40**, No. 40

*Chest-Head Percussion Sign. P. Busacchi.—p. 385.
*Resection of Intestine for Obstetric Injury. E. Cartolari.—p. 386.

Chest-Head Percussion Sign.—Busacchi applies his left hand flat to the parietal region of the subject seated with trunk bare and head bent forward. He then taps lightly with the percussion hammer on the posterior wall of the thorax. The shock from the light blow of the hammer is felt by the palm held against the head. He calls this the thoracocephalic phenomenon, and describes the characteristic modifications in it with pleurisy or pneumonia, or other conditions impeding transmission of the vibrations.

Obstetric Injury During Embryotomy.—After embryotomy on a dead seven-months fetus, a loop of intestine appeared at the vulva, perforated at several points. It sagged through the lacerated posterior fornix, and the uterus was likewise torn. A laparotomy showed that a long stretch of bowel had been torn from its mesentery, and Cartolari resected 2.3 meters of the small intestine, joining the ileum to the cecum after vaginal hysterectomy. Recovery was prompt and uneventful.

Pediatria, Naples

December, 1919, **27**, No. 12

*Diphtheria of Nose and Ear in Infant. L. Spolverini.—p. 785.
*Congenital Cysts in Neck. C. Romano.—p. 790.
Results of Artificial Feeding at Well Baby Clinic. A. Borrino.—p. 805.

Diphtheria of Nose and Throat in Young Infant.—The infant was only 30 days old, and the coryza and otitis seemed amply explained by the syphilis of the parents. The mother's statement that the discharge from the nose had been mixed with blood and had kept up for ten days, worse at night, led to bacteriologic examination. This revealed diphtheria bacilli in both the nose and ear secretions. No case of diphtheria was known in the environment. Spolverini comments that this case suggests that chronic otitis media in young infants may be the work of diphtheria bacilli more often than hitherto suspected. There was nothing about the otitis in this case to suggest the diphtheric origin.

Congenital Cysts of the Neck.—Romano gives the details of six cases in which he operated. Three of the patients were young adults, the dermoid cyst first becoming manifest at 8, 10 and 25, and gradually increasing in size. In the three children the cysts were serous and multilocular, and they had increased in size slowly from a small bunch noted early in two of the cases. The cysts in the third child formed a mass on one side of the neck as large as the head. The infant was only 10 days old when Romano aspirated the contents of each of the six cysts forming the mass. The fluid returned, requiring repeated aspiration, and finally some of the cysts suppurated. Aspiration of the contents and irrigation with a weak solution of tincture of iodin finally completed the cure, and by the time the child was 4 months old the neck was symmetrical in aspect except for the series of small scars. In the boy of 12 the multilocular cyst was not very large and it was easily enucleated, but in the child of 2 the cyst mass was larger than its head, and was suppurating when first seen. Adhesions hampered the operation, and success was realized only after repeated evacuation, drainage and disinfection of the cavity and fistula. If the cysts do not interfere with breathing and eating, he advises to postpone the intervention until the child is a few years old.

Policlinico, Rome

November 9, 1919, **26**, No. 45

*Atropin Test in Diagnosis. L. Siciliano.—p. 1317.
Hexamethylenamin in Typhus Fever. B. Coglievina.—p. 1319.
Syphilis, Eugenics and War in Relation to Preventive Medicine. F. De Napoli.—p. 1322.
Primary Tuberculosis of Kidney: Nephrectomy. C. Solina.—p. 1335.
Two-Way Irrigator for the Bladder. E. Pirondini.—p. 1338.
Local Treatment of Anthrax. G. Conforti.—p. 1339.

Nov. 16, 1919, **26**, No. 46

Pathogenesis and Treatment of Acetone Intoxication in Children. E. Modigliani.—p. 1349.
Medicosocial Lessons from the War. G. Breccia.—p. 1365.

Diagnostic Significance of Pupil Reaction to Atropin.—Siciliano explains how instillation of atropin in the eye throws light on the state of the general sympathetic system and muscle tone. The various elements of the dilatation of the pupil: the maximal dilatation, the difference in the lumen before and after, the duration of the effect, the rapidity with which it subsides, and the curve of the subsidence—all these may differ with varying conditions in the sympathetic system, etc., and the charted findings have diagnostic significance.

Riforma Medica, Naples

July 12, 1919, **35**, No. 28

*Echinococcus Cysts of the Spleen. A. Cardarelli.—p. 565.
*Diffuse Phlegmonous Gastritis. R. Secchi.—p. 569.
*Hyperexcitability of Muscles in Tuberculosis. P. Verrienti.—p. 571.
Present Status of Typhus Fever. A. Lustig.—p. 573.
*The Negri and Lentz Bodies in Rabies. R. Giurato.—p. 577.

Hydatid Cyst of the Spleen.—In the case described, a dull ache and occasional violent pains in the left flank were explained by an elastic tumor beneath the costal arch. Cardarelli put one hand on the back, the other hand on the front, over the tumor, and pushed suddenly, from one hand to the other and back again. He has always noticed that

when the tumor seems to show the movement from the front hand more, then the tumor is in or near the spleen, while it is in or near the kidney if the movement is transmitted better from the rear. This sign pointed to the spleen in this case, and the good general condition during the eighteen months, the absence of fever, of urinary and all other functional disturbances, and the fact that the descending colon lay to one side of the tumor, confirmed this assumption, and suggested a hydatid cyst. He has witnessed four cases of severe by-effects from exploratory puncture with a Pravaz needle, one proving fatal, consequently he punctured with an aspirating apparatus, without wasting time on medical measures. The fluid showed an active cyst, but there was 1 gm. and more of albumin in the 800 c.c of fluid. He accepts this as a sign that the cyst is dying, and will continue this aspirating treatment, ready to operate at need. In another case, aspiration once a month for a year cured completely, and the cyst has never returned. But as a rule he advises surgical intervention if the cyst returns.

Diffuse Phlegmonous Gastritis.—The man of 39 died the seventh day from the first sudden onset of stomach symptoms, violent pain and vomiting, soon accompanied by fever and chills. The vomiting stopped the fourth day, and diarrhea developed. Pus and epithelial cells were found in the vomit; the stomach region was tender, and the man lay in bed bent over forward. Necropsy confirmed the diffuse phlegmonous gastritis with streptococci. Surgical intervention should be considered in the circumscribed form, and Mikulicz reported a cure in one diffuse case.

Muscle Signs in Tuberculosis.—Verrienti describes the hyperexcitability of the muscles impregnated with the tuberculous toxins. It can be rendered manifest even early in the disease by light finger-finger percussion of a muscle or tendon, which can then be felt contracting under the fingers. Sometimes a group of muscles contract and lift the scapula, or twist the arm, etc. The rise in temperature after physical exertion is probably from absorption of the toxins liberated by the muscles during the exercise. The heart muscle and the fibers in the vessels feel the toxic effect like other muscles.

The Negri and the Lentz Bodies in Rabies.—Giurato states that recent research has confirmed anew that these bodies are not parasites but only products of cell reaction.

Anales de la Facultad de Medicina, Montevideo

September-October, 1919, **4**, No. 9-10

*Echinococcus Disease in Cattle. J. Llambías.—p. 585.
*Bone Implants in Tuberculous Bone and Joint Disease. C. Robertson Lavalle.—p. 599.
*Early Operation for Gastric and Duodenal Ulcer. H. García Lagos.—p. 609.
*Adenoids and Tonsils in Children. P. J. Martino.—p. 627.
Partial Epilepsy in Child. W. Piaggio Garzón.—p. 692.
The Deep Posterior Aponeurosis of the Leg. R. Bastos Peltzer.—p. 698.

Echinococcus Disease in Cattle.—Llambías describes with illustrations a multilobular echinococcosis he has been studying in some cattle in Argentina.

Bone Implants in Tuberculous Joints.—See abstract below.

Early Excision of Gastric and Duodenal Ulcers.—García has had 59 operative cases under long surveillance out of the 683 cases of gastric ulcer he has treated in the last ten years. He has gradually become convinced that early operative intervention is the only treatment for cases in which there have been two or three attacks. If the crises are very severe or occur often, it should not be delayed. In old cases, gastro-enterostomy is all that can be done, but the surgery of tomorrow, he reiterates, will be early excision of the ulcer. His 59 patients had been suffering for many years, and there were complications in 5 (fatal in 4), but all the others were cured by the gastro-enterostomy except 2 with fatal pneumonia or embolism, one with peptic ulcer, and one with cancer later. In 26 of the 59 cases the ulcer was in the duodenum.

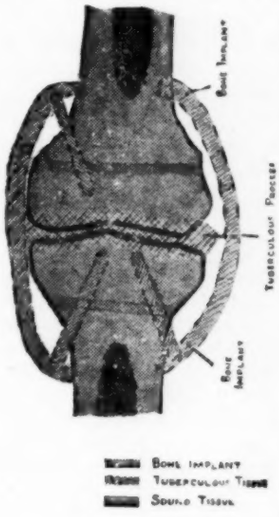
Adenoids and Tonsils.—Martino states that tonsillectomy in the period 1900 to 1910 was very seldom followed by grave operative complications; but since then the literature shows that the number of cases of severe postoperative hemorrhage and death has been very large, both in adults and in children, as the operations have become more radical. He contends that for physiologic reasons, as well as on account of the operative dangers, tonsillectomy should not be done on children; the infected crypts should be emptied and disinfected. He insists that the actual cautery should never be used, as this obliterates the outlet to the crypts.

Anales del Inst. Modelo de Clín. Méd., Buenos Aires

January-December, 1919, **4**

New Remedies for Habitual Constipation. Fernández Martinez.—p. 1.
*Bone Implants in Treatment of Tuberculous Joints. C. Robertson Lavalle.—p. 8.
Clinical Forms of Cholelithiasis. L. Agote.—p. 17.
*Serologic Test for Suppuration. I. L. Ymaz Apphatie:—p. 31.
*Radioscopy of the Stomach. E. V. Merlo.—p. 46.
Pathogenesis of Congenital Syphilis. J. C. Navarro.—p. 80.
McDonagh's Works on Syphilis. C. Pillado Matheu.—p. 90.
The Cilia of the Epithelium in Cutaneous Tumors. P. Rojas.—p. 110.
*Displaced Sternum Sign with Thoracic Tumors. R. Novaro.—p. 134.
The Wassermann Reaction Outside of Syphilis. E. Lorentz.—p. 153.
Cretinism from Inherited Syphilis. R. Novaro and J. Ortuño González.—p. 173.
*Vacuum Drainage of the Chest. A. Galíndez.—p. 177
*To Induce Crystallization of Hemoglobin. J. Lacoste.—p. 189.
Diffuse Sclerosis of the Brain. L. Merzbacher.—p. 201.
*Defensive Ferments. H. Damianovich.—p. 210.
*Suppurating Hydatid Cysts in Liver. H. J. Petty, Jr.—p. 217.
Gastric Chemistry with Cholelithiasis. R. Novaro and J. Ortuño González.—p. 221.

Bone Implants in Treatment of Active Tuberculous Process.—Robertson declares that the method he describes opens a field for conservative surgery to aid the natural processes of repair. He does not excise the tuberculous tissue in the knee, for example, but inserts two strips of bone from the tibia, implanted in sound tissue on each side of the joint. The ends of the bone strips are buried in the sound bone above and below the diseased joint, which they bridge on each side. Sometimes he drives pegs slanting through the sound bone into the epiphysis, traversing the cartilage but stopping short of the tuberculous lesion. He keeps up extension in a cast for three months and begins with extension and traction for two weeks before supplying the implants, to render conditions more favorable for them. They induce a reaction osteitis which starts processes of repair, and they supply material for the repair. The implants should be chiseled out, never sawed, as the bone sawdust clogs the openings in the bone and prevents the growing in of new vessels. No foreign body, thread or wire, should touch the implants. The ends of the latter should fit into the subcortical tissue, beneath the periosteum, but not extending to the marrow cavity. The osteitis induced by the end of the implant in the epiphysis may block the circulation to the tuberculous tissue and compel its atrophy. The pegs traversing the cartilage serve to drain away venous blood. The side implants in his cases grew in six months from the size of a toothpick to that of a rib. The patient can get up after three months, a light plaster cast still immobilizing the joint. When roentgenograms and palpation fail to reveal anything left of the lesion, he removes the subcutaneous side implants, and in ten or twelve days afterward begins massage. The osteitis serves as revulsion and the general health shows promptly the benefit from this.



Bone implants with tuberculous arthritis.

Serologic Reaction with Suppuration.—Ymaz has been working for ten years to produce a stable suspension of leukocytes which could serve for the serologic diagnosis of hidden suppuration. He reviews the research by others in this line, and describes a simple technic with which he obtains aseptic pus (from a turpentine abscess) in an

isotonic vehicle, and the whole keeps perfectly for an indefinite time. The precipitation reaction and the zone of contact reaction with this reagent were relatively negative in thirty-eight healthy controls and relatively positive in the five cases of suppuration tested.

Radioscopy of the Stomach.—Merlo gives thirty-two radiograms of the stomach and discusses the interpretation of the findings, especially the differentiation of organic and spasmodic stenosis.

Sign of Neoplasm Inside the Thorax.—Novaro recalls that Pitres demonstrated the displacement of the sternum toward the side containing a pleural effusion. The lung on the other side has to work extra hard, and this extra expansion forces the xiphoid appendix toward the other side. Novaro calls attention to the inverted displacement when there is a tumor in pleura, lung or mediastinum. The infiltration around the tumor and the tumor itself force the xiphoid appendix over toward the sound side. He gives the roentgen and necropsy findings in three cases which establish the reliability of this sign which, he says, might be called the inverted Pitres.

Suction Drainage.—Galíndez describes the technic with which he has successfully drained by aspiration in cases of cysts in the lungs, bronchial fistulas and purulent pleurisy.

Hemoglobin Crystals.—Lacoste lakes the blood clot with a small quantity of blood serum and carbon bisulphid, or ether, in excess, triturating in a mortar. A thick drop of the filtrate (through paper) is kept in the moist chamber until crystals form. He gives thirteen photomicrographs showing the characteristic crystals with different species of animals.

The Enzyme Reactions in Immunization.—Damianovich states that the oxydases in the blood were in larger proportions in patients with infectious diseases than in others, among 100 persons tested. In rabbits, the enzymes which cause oxidation processes increased in notable proportions when the animals had been inoculated with diphtheria or other infection.

Hydatid Cysts in the Liver.—Petty usually reaches the cyst through the pleura after resection of the ninth or tenth rib, suturing the diaphragmatic to the pleural pleura, leaving the diaphragm exposed. He describes his technic in detail. Forty-eight hours after evacuation of the cyst he applies the Dakin-Carrel treatment, and begins heliotherapy in a week. In his six cases of the kind, the cure was complete in thirty-six days on an average with this treatment; without the Carrel-Dakin procedure the average was fifty-nine days.

Archivos Brasileiros de Medicina, Rio de Janeiro

July, 1919, **9**, No. 7

*Impending Eclampsia. R. Pacheco.—p. 541.
Sewerage System of Rio. Belmiro Valverde.—p. 567.

Eclampsism.—Pacheco applies this term to the condition just preceding eclampsia, and tells how to detect it in time and thus avert disaster. He declares that it is not enough to examine the urine for albumin. The specific gravity and the chlorid content in the twenty-four hours urine are the true index of the condition. The blood pressure should be taken whenever the pulse is hard and the output of urine reduced. The pulse curve is typical in this stage of hypertension, the prelude to eclampsia. This characteristic sphygmographic record differs in three features from the normal tracing: in the slope of the ascending line; in the plateau instead of the usual peak between the ascending and descending line, and in the almost total absence of the elevations of secondary waves. Pacheco gives the findings in over fifty pregnant women, all free from albuminuria, but with urine of a specific gravity of 1.010 or below. The arterial pressure was constantly high in all these cases and the pulse was of the characteristic type, confirming the imminence of eclampsia. Only this group of fifty were found among 300 pregnant women examined in the course of almost a year's research. The women found to be threatened with eclampsia were kept on milk alone; in the extreme cases only water was allowed. Injections of sugar solution were useful to reduce the concentration of the blood and promote diuresis. Venesection two or three times a month, withdrawing not more than 100 or 120 gm. of blood at a time, helped to reduce the blood pressure and get rid of toxins. Purges and enemas aided in improving the general condition. A tendency to jaundice usually accompanied this precursor stage, and it promptly subsided under small fractioned doses of calomel, cascara, etc. Diuretics should be accompanied by total or partial restriction of salt, and no meat at all should be allowed. This article was awarded the Durocher prize by the Academia Nacional de Medicina. Pacheco's attention was called to eclampsism by the case of a young pregnant woman whose urine was free from albumin on repeated examination. Slight edema and slight headache one day led to investigation of the urine for the specific gravity, which was found 1.006, and large amounts of albumin suddenly appeared in the scanty urine. Convulsions followed the same day, and proved fatal in seven hours.

Archivos de Ginecopatía, Obstet. y Ped., Barcelona

September, 1919, **32**, No. 9

*Scabies and Osteomyelitis. C. Martí Cabot.—p. 205.
Treatment of Hysteria. R. del Valle y Aldabalde.—p. 208.
*Mentally Abnormal Children. E. Fernández Sanz.—p. 214.
*Fracture of Femur. F. Criado Aguilar.—p. 221.

Scabies and Osteomyelitis.—Martí reports a case of osteomyelitis in a child who had been having scabies for three months. The case teaches anew that a mild pathologic condition, like scabies, may open the portal to fatal infection. The extensive osteomyelitis required radical and persevering operative measures.

Mentally Abnormal Children.—Fernández describes the various measures required for three great groups of mentally abnormal children, the mentally backward, the mentally backward with some active psychopathy, and the abnormal children not mentally backward.

Fracture of the Femur.—Criado denounces extension as unreliable even for adults and much more so for restless children. His method of applying a cast to insure that the leg is exactly the length of the sound mate has already been described in these columns, when published elsewhere (Oct. 11, 1919, p. 1168).

Archivos Latino-Amer. de Pediatría, Buenos Aires

September-October, 1919, **13**, No. 5

Benefit from Albumin Milk in Two Cases of "Decomposition." J. P. Garrahan.—p. 405.
Atrophic Cirrhosis of Liver in Syphilitic Infant. L. Belloc and S. Satanowsky.—p. 413.
Hydatid Cyst in Lung Spontaneously Evacuated. V. Zerbino.—p. 417.
Chorea of Mental Form. V. Zerbino.—p. 419.
*Gallop Sound in Acute Nephritis in Children. L. Morquio.—p. 424.
Atresia of Anus and Rectum. M. Armand Ugón.—p. 429.
*Diphtheric Paralysis without Diphtheria. M. Ponce de Leon.—p. 434.
Jellification of Spinal Fluid with Xanthochromia in Child with Tuberculous Meningitis. J. A. Bauzá.—p. 440.
Emulsion of Cod Liver Oil in Malt Extract. L. Morquio.—p. 446.

Gallop Sound in Children.—The gallop sound in the precordial region in the two cases described cleared up the diagnosis by suggesting acute nephritis. The child of 4 had no other symptoms except slight pathologic findings in the urine, and all promptly returned to normal. The child of 14 presented symptoms of endocrine insufficiency when the discovery of the gallop sound called attention to the kidneys. The acute nephritis in this case proved rapidly fatal. The circumstances in these and in other cases cited suggest that toxic action on the myocardium is responsible for the gallop sound in these cases, by weakening the heart action and thus entailing compensating dilatation.

Polyneuritis of Diphtheric Origin without Apparent Diphtheria.—Ponce de Leon reports another example of generalized polyneuritis, without pain or sensory disturbances, entailing merely general paresis in the child of 8. No cause for the polyneuritis could be discovered but certain features of it suggested diphtheric paralysis, and although the throat was apparently normal, diphtheria bacilli were cultivated

from it and under antitoxin rapid recovery ensued. The case teaches the wisdom of antitoxin treatment in dubious cases of the kind.

Boletín de Medicina y Cirugía, Guayaquil

August, 1919, **17**, No. 123

Modern Treatment of Syphilis. M. Peñaherrera E.—p. 111.
The Danger from Tuberculosis. B. Huerta.—p. 113.
*Sugar Treatment of Tuberculosis. J. D. Escolar.—p. 114.
Healing of Fracture under Lane Plate. J. E. Verdesoto.—p. 118.

September, 1919, **17**, No. 124

Influenza at Paris. P. P. Eguez B.—p. 127.

Sugar Treatment of Tuberculosis.—Escolar has applied the Lo Monaco method of daily injection of a sugar solution in tuberculous patients, but found the results very disappointing.

Gaceta Médica de Caracas

Oct. 31, 1919, **26**, No. 20

Treatment of Typhoid Fever. A. Machado.—p. 211

Prensa Médica Argentina, Buenos Aires

Nov. 20, 1919, **6**, No. 17

*Multiple Primary Cancer of Lymph Glands. M. Aberastury.—p. 169.
Diffuse Phlegmon of Scalp after a Fall. A. Marciano and A. Artusi.—p. 173.
Proposed Changes in Medical Curriculum. G. Aráoz Alfaro.—p. 173: Id. J B. González.—p. 176.

Primary Cancers of Lymph Glands.—Aberastury's patient was a healthy farmer of 70 who suddenly developed a chill and pains in the chest. In a month he noted a tumor near the umbilicus and another later in the right supraclavicular fossa. These tumors were hard and knobby. A number of lumps developed at other points, all hard, round and indolent, and the asthenia was extreme, although the man seemed well nourished, and there was no fever. By exclusion, the glandular lesions were assumed to be metastases from some hidden cancer, but the nine photomicrographs given show that the multiple lesions were all primary endotheliomas of the lymph glands. Aberastury knows of only seven cases on record approximating this.

Dec. 10, 1919, **6**, No. 19

*Chronic Parametritis. C. A. Castaño.—p. 193.
Myositis Simulating Ankylosis of Jaw. A. Sacco.—p. 194.
*Percussion in Pleurisy in Children. E. Martinez Zuviría.—p. 195.
Testimony in Case of Induced Abortion. E. Catalán.—p. 196.
Arrhythmias. P. M. Barlaro.—p. 196. Cont'n

Chronic Parametritis.—The two cases described by Castaño were of the type with atrophy to which Freund first called attention. The persisting pain is evidently the result of compression of nerves from the sclerosis in the connective tissue. There is a history of untreated syphilis in both his cases, and in addition to specific treatment, he has ordered massage to promote the circulation and ward off atrophy of the internal genitals, and gymnastic exercises of the bicycle type. He is also applying hot air, and is considering diathermy and ovarian treatment. Pulvermacher has recently reported benefit from rectal injection of iodized paraffin, the latter acting on adhesions. He mixes 5 gm. of paraffin at 75 C. with 90 gm. of liquid paraffin. When cooled to 45 C., he adds 10 or 15 drops of tincture of iodin. The syringe is heated in boiling water and the mixture is injected about 6 cm. above the anus.

Diagnosis of Pleural Effusion in Young Children.—Martinez found normal resonance in the chest of the child of 2½ with ordinary percussion, but when the percussion was extremely gentle, the child sitting up without support, except for its hands, dulness was found in the entire left side of the chest, and puncture in the ninth interspace released an effusion. The coexistence of a vesicular murmur was misleading at first.

Revista Española de Medicina y Cirugía, Barcelona

November, 1919, **2**, No. 17

*Double Operation for Gangrenous Hernia. G. Estapé.—p. 595.
*Symptom of Hyperthyroidism. G. Marañón.—p. 598.
*Radiocardiometer. B. Navarro Cánovas.—p. 600.
Pathology of the Skin in Relation to Pathologic Brain Conditions. E. de Oyarzabal.—p. 604.
Electrocardiography in Pathologic Conditions. R. Dargallo.—p. 607.

Treatment of Gangrenous Hernia.—Estapé opens up the hernia as usual, but if he finds evidence of gangrene he packs gauze around it and makes a vertical incision some distance above, at the margin of the anterior rectus, and hunts for the afferent and efferent portions of the loop forming the hernia. He then makes an anastomosis between them, with a button, and sutures the incision. He then returns to the gangrenous herniated portion of the loop and fastens it to the skin, amply protected with gauze. When this bowel sloughs open he treats it until the loop is harmless and the fistula heals, which takes about twenty-eight or thirty days. This procedure applied in two cases gave excellent results. The course of the feces was reestablished from the start, while, after draining, the gangrenous loop healed naturally. He warns that fresh gloves should be taken at each step of the operation, and emphasizes the necessity for operating a strangulated hernia within twenty-four hours to ward off gangrene. Two illustrations show the technic with inguinal hernia.

Vasomotor Symptom of Hyperthyroidism.—Marañón found in ninety-two of 100 cases of hyperthyroidism that rubbing the skin in the neck lightly with the fingers made it turn very red in the region of the thyroid, a much brighter red than could be elicited by rubbing the skin in the same way elsewhere. This vasomotor reaction may be more pronounced in the milder cases, and is more distinct in the nervous, in women, in the young, at the menopause, and in persons inclined to sympatheticotony rather than vagotony. He has not seen any mention in the literature of this induced localized erythem in the thyroid region; it may be a uniform or irregular redness, and there may be slight swelling of the red patches.

Radiocardiometer.—Remigio Dargallo comments on the lack of accuracy in estimating the size of the heart unless the very complicated orthodiagraphy method is used. He has found that the ratio between the diameter of the heart and the widest diameter of the chest is almost constant in health. The normal heart forms 42 per cent. of the chest diameter; 33 per cent. of the remaining diameter lies to the right and 25 to the left. When the subject reclines, the heart spreads out a little, so these figures are modified to 44, 35 and 21. He gives an illustration of a chart scale marked off in hundred squares, in perspective, the different rows of squares corresponding to different sized chests, with the squares corresponding to the normal heart area marked. This radiocardiometer is made of transparent celluloid, and by laying the scale on the chest or on the screen, with the row of squares just corresponding to the diameter of the individual chest, it is easy to see any encroachment of the heart shadow beyond the area it should normally occupy.

Revista de Medicina y Cirugía, Havana

Dec. 10, 1919, **24**, No. 23

The Algias of Psychasthenics. J. M. Govantes.—p. 549.
Diabetic Gangrene. R. Grau San Martin.—p. 551.

Revista de Medicina y Cirugía Prácticas, Madrid

November, 1919, **125**, Nos. 1577-1580

Drugless Treatment of Tuberculosis. J. Codina Castellví.—p. 161 and 193.
*Intermittent Occlusion of Intestine in the Pregnant. D. F. Villanueva.—p. 233.
Pathology of the Skin in Relation to Disease of the Spinal Cord. Eusebio de Oyarzabal.—p. 264.

Intermittent Ileus in the Pregnant.—Villanueva states that autointoxication was pronounced in the two pregnant women with intermittent ileus he has recently encountered, and he ascribes it to spasmodic contraction from toxic action. In both, uncontrollable fecaloid vomiting preceded and accompanied the intermittent occlusion of the bowel, and one of the women died the fifth day after induced premature delivery. The other woman was treated at the fifth month with measures to arrest the tendency to spasm of the bowel and cure the autointoxication, and she was thus tided along until term, and parturition was physiologic. The main reliance was on two or four injections of morphin, with atropin, hot enemas, with a little milk by the mouth and scraps of ice.

Revista de Psiquiatría, Lima

October, 1919, **2**, No. 2

Clinical Study of Tabes in a Young Man. E. Odriozola.—p. 92.
*Disturbances after Ovariectomy. R. Mendoza M.—p. 97.
The Various Causes of Sudden Death. F. Quesada.—p. 108.
The Nervous Disturbances of Influenza. H. Valdizán.—p. 113.
The Mental Development of the Child. H. F. Delgado.—p. 130.
*Psychopathography. H. Valdizán.—p. 175.

Nervous and Mental Disturbance After Ovariectomy.—Mendoza summarizes nine cases in which the artificial menopause induced unusually severe nervous disturbances and change in character. No benefit was realized from organotherapy in most of the women. In the most refractory cases an element of hysteria or neurasthenia was manifest. One woman of 40 had attacks of unconsciousness, besides the usual phenomena of the menopause; no benefit was obtained from ovarian treatment but under ergot for a time conditions gradually returned to normal. Headache, insomnia, neuralgias and pain in the lumbar region were common.

Psychopathography.—This is a short story written by a young man with paralytic dementia. It is reproduced as a specimen of psychopathography.

Semana Médica, Buenos Aires

May 1, 1919, **26**, No. 18

What the Medical Course Should Be. G. Aráoz Alfaro.—p. 447.
Opening Lecture on Clinical Epidemiology. F. R. Torres—p. 457.
Potassium Iodid for Radiography of Fistulas. C. Heuser.—p. 462.
What the Preparatory Course and Requirements Should Be for the Medical, Dental and Pharmacy Courses. Ubaldo Fernández.—p. 463.

Oct. 23, 1919, **26**, No. 43

*Splenectomy for Banti's Disease. A. Ceballos.—p. 479.
Fatal Case of Lethargic Encephalitis. R. Rivas Jordán.—p. 483.
The Radium Institute. C. A. Castaño.—p. 484.
Treatment of Diphtheria. C. E. Pico.—p. 486.
*Benzol in Leukemia. M. E. Pignetto.—p. 489.
Case of Genital Neurasthenia. J. de Pereira Rego.—p. 492.
Case of Senile Arteriosclerosis and Amaurosis. Id.—p. 500.

Splenectomy in Banti's Disease.—In Ceballos' three cases the disease was in the third or ascitic stage; the patients were three men between 22 and 28. The easiest mode of access was with the patient lying on his right side, his back at an angle of 45 degrees with the surface of the table. The left arm, in extreme abduction, is raised toward the head, which raises the base of the thorax and the stretched muscles. The surgeon stands at the patient's right. With his right hand he can pivot out the spleen; as it lies on the abdominal wall, the vessels in the pedicle can be easily seized and adhesions to the diaphragm broken up more readily than from the left side. If the spleen is excessively large, it might be wiser to ligate the artery in the pedicle and wait for the organ to atrophy rather than remove it at once.

Benzol in Leukemia.—Pignetto reports two cases of myelogenous leukemia in which marked improvement followed benzol treatment. The first patient was a woman of 45; the erythrocytes increased from 2,000,000 to 5,000,000 by the eighty-third day, the hemoglobin from 60 to 88 per cent., while the leukocytes dropped from 600,000 to 7,500. She took 2 gm. benzol daily at first and increased to 5 gm. without any signs of intolerance except at first and toward the last, compelling brief suspension of the treatment. A total of 256 gm. was thus taken. She kept well for three months after the close of the course of treatment, and then returned to her home in the country and further details are not known. The second patient was a woman of 55, and the leukemia subsided somewhat under roentgen exposures three times a week for a month, the leukocytes dropping from 200,000 to 120,000. Then increasing weakness and other symptoms compelled abandonment of the exposures, and benzol was given, a total of 150 gm., with improvement as in the other case. It has persisted during the two years to date, with nothing left of the leukemia except the anemic complexion. This patient takes arsenic for twenty days each month.

Siglo Médico, Madrid

Nov. 29, 1919, **66**, No. 3442

*Acute Colitis in Children. Bravo y Frias.—p. 1025.
*Serodiagnosis of Syphilis. T. Morató Cárdenas.—p. 1030.
*Bacteriologic Prognosis in Typhoid. L. Ruiz de Arcaute.—p. 1033.

Dec. 6, 1919, **66**, No. 3443

Personal Prophylaxis of Venereal Diseases. E. Mañueco Villapadierna.—p. 1049.
Inherited Syphilis and Tuberculosis. E. Mariño and J. C. Mussio Fournier.—p. 1052.
Necropsy of Burned Child. M. Bermejillo.—p. 1054.
Grave Suprarenal Insufficiency During Influenza; Two Cases. M. Clemente—p 1057

Acute Colitis in Children.—Bravo found in his 50 cases last summer in children from 1 to 5 years old, that the streptococcus was mainly responsible, alone or associated with the colon bacillus. The colitis accompanied or followed streptococcus lesions elsewhere, or became associated with a streptococcus lesion of the skin. Pyelonephritis frequently followed the colitis, which emphasizes the share of the colon bacillus in the process. In 35 per cent. of the 50 children, a febrile bronchitis just preceded the colitis, but 2 children developed it at the same time as other members of the family were having influenza. Only 2 of the total 50 were breast-fed; the majority were eating at the family table, and the premature use of meat, eggs and cheese may have afforded a predisposition.

Serodiagnosis of Syphilis.—Morató states that the Sachs-Georgi test gave findings that paralleled the Wassermann test more closely than any other of the various serologic tests applied.

Bacteriologic Prognosis of Typhoid.—Ruiz de Arcaute refers to some recently published cases in which the total absence of agglutination and of bacteria in the blood coincided with a promptly fatal course. He warns that even the most apparently typical necropsy findings do not justify the absolute diagnosis of typhoid unless the stools have been examined.

Deutsche medizinische Wochenschrift, Berlin

Oct. 9, 1919, **45**, No. 41

Regenerative Processes in Man. A. Bier.—p. 1121. Cont'n.
The Friedmann (Turtle) Strain of Tubercle Bacilli. G. Schröder.—p. 1124.
Proteus X_{19} and Complement Fixation in Typhus Fever. W. Steiner.—p. 1126.
The Avoidance of Untoward Results of Arsphenamin Administration. C. Stern.—p. 1127.
*Tuberculosis of Mesenteric Glands. E. Gehrels.—p. 1128.
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Congenital Nevus and Acquired Gigantism of the Left Leg. W. Lehmann.—p. 1137.
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Present Problems and Aims of Sexology. A. Kronfeld.—p. 1140.
The Terms "Constitution" and "Heredity." A. Edel.—p. 1141.
Enlargement of Salivary Glands in Soldiers. W. Blumenthal.—p. 1141.

Tuberculosis of the Mesenteric Glands.—Primary tuberculosis of the mesenteric glands, Gehrels finds, is not so well known as the secondary form, in spite of its greater importance. The diagnosis of the primary form is important because it is so often confused with surgical diseases, especially appendicitis. The disease is produced by tubercle bacilli entering from the intestine. The bovine type of bacillus is common. The favorite site of the disease is the lymph glands of the ileocecal region. Children are more frequently affected than adults, which is owing to the greater permeability of the intestinal mucosa. Abdominal pains, usually localized in the ileocecal region, are the most important initial symptom. Acute symptoms often resemble those of tuberculosis of the peritoneum. Fever is usually present at the onset. Insatiable hunger (bulimia) and denutrition, accompanied by secondary anemia, are characteristic symptoms. The intestinal disturbances vary and are not typical. Blood in the stool points rather to tuberculosis of the intestine. He adds that two roentgenograms of the abdomen should be taken several days apart for purposes of comparison. The most important clinical complication is ileus. The lack of abdominal distention and the abdominal sensitiveness to pressure help to differentiate the disease from appendicitis, which it resembles in its earlier manifestations. Tuberculosis of the mesenteric glands is more amenable to treatment than any other form of tuberculosis: forced feed-

ing, change of climate, artificial heliotherapy, deep abdominal roentgenotherapy, and tuberculin injections. Surgical intervention is indicated only when long continued internal treatment has failed. Mesenteric abscesses may demand an operation. Various types of operation are to be considered: radical extirpation of the diseased glands, excochleation, abscess puncture, and explorative laparotomy in diffuse conditions in which assailable glands are not readily recognized.

The Therapy of Pernicious Anemia of Unknown Origin.—That it is a long and weary road that both physician and patient have to travel before cryptogenetic pernicious anemia can be cured, Zadek readily admits; in fact, an absolute cure is exceedingly rare. He has, however, by his mode of treatment been able to effect marked improvement in seventeen cases. He orders rest in bed until remission occurs, which usually requires from four to six weeks. The patient may then be allowed to sit up for longer periods each day. The diet should consist mainly of milk, vegetables, cereals and fruit; twice a week, boiled meat (no sausage or smoked meat); cheese and eggs in small quantities; reduced liquid intake (no soup). As medication he advises: three times daily by mouth, 20 drops of hydrochloric acid; after an early supper, 20 gm. of animal charcoal in wafer form; every second day subcutaneous injections of a thoroughly neutralized 1:100 solution of sodium arsenate, beginning with one scale unit of the Pravaz syringe and increasing one unit at a time up to 1 c.c.; in exceptionally severe cases up to 2 c.c. For one or two weeks injections of the same quantity are given; then they are decreased down to 0.1 c.c. again. Weekly intravenous injections of neo-arsphenamin in increasing doses: 0.15, 0.3 up to 0.45 gm., for from four to six weeks are given. Daily, alternating gastric and intestinal lavage is done. For the gastric lavage, which is given mornings before breakfast, from 12 to 15 liters of lukewarm water are used, to which 3 gm. of sodium salicylate or phenyl salicylate have been added. The intestinal lavage is usually given evenings (in the genucubital position) with a chamomile decoction, or, if there is a tendency to constipation, a soapsuds enema is used. The lavages are usually kept up until the arsenic treatment is discontinued, but often for weeks, and occasionally for years. Zadek states that the outlined treatment is certain, in a few weeks, to bring about an extended remission.

Deutsche Zeitschrift für Chirurgie, Leipzig

February, 1919, **148**, No. 3-4

*Oblique Inguinal Hernia. G. Ledderhose.—p. 145.
*Restoration of Eyelashes. J. F. S. Esser.—p. 199.
*Operative Treatment of Cardiospasm. R. Pamperl.—p. 206.
*Bulging of Carotid Artery. P. Deus.—p. 228.
Snapping Hip. K. Propping.—p. 251.
*Dislocation of the Atlas; Recovery. T. Naegeli.—p. 269.
*Retrograde Herniotomy. Kinscherf.—p. 276.
*Foreign Bodies Impacted in Esophagus. L. Zindel.—p. 281

Indirect Inguinal Hernia.—Ledderhose devotes over fifty pages to this study of the structure of external and encysted inguinal hernia, its mode of development, especially the congenital type, the recurrences after herniotomy, the relations with the omentum, various anomalies such as a lipoma in the inguinal canal, and the features, the microscopic in particular, which differentiate the direct and the indirect types. The minute findings in twenty operative cases are recorded.

Operations to Restore Eyelashes.—Esser gives an illustrated description of the method he has applied in a number of cases to restore missing lashes, by taking a strip from the eyebrow to suture to the edge of the lid. He first slits both eyebrow and eyelid lengthwise, and sutures the near lips of each together, forming thus a kind of tunnel lined with skin. When this has healed, he sutures the other lips together, the upper part of the eyebrow and the lower part of the eyelid, covering up the other suture. Then an incision is made through both, just below the hairs in the eyebrow and just above the hair strip that was first sutured to the upper lip of the lid. This leaves the eyelid with a strip of hairs. The various steps of the operation in two cases are illustrated; they are not cited as very successful cases.

Operative Treatment of Cardiospasm.—Pamperl reports two cases of inveterate cardiospasm in which he opened the stomach and stretched the cardia for half an hour until he could work four or five fingers of one hand through it. Notwithstanding this unprecedented stretching of the cardia and the excellent immediate results after the operation, the cardiospasm now displays a tendency to return. The contrast meal four months later showed a distinct retarding of the passage through the cardia, even when there was no disturbance in swallowing. By the tenth month this was more pronounced, and the patient feels that the food tarries above the stomach when she is excited. The other patient seems to be subjectively cured although the bismuth suspension does not pass entirely at once into the stomach. Even with this possibility of return of the cardiospasm, he regards this stretching method, without cutting the cardia, as the preferable technic when systematic efforts at dilatation with sounds from the mouth have failed to relieve. He tabulates the fine results realized with this dilatation from below in sixteen cases on record, comparing with it eight cases in which various surgeons applied other operative measures.

Spontaneous Dilatation of the Carotid Artery.—Deus describes three cases of bulging of the carotid simulating an aneurysm and requiring operative intervention. He compares with these the few cases on record of suture of the carotid artery for aneurysm. There was only one fatality in the list.

Forward Dislocation of the Atlas.—Naegeli reports the tardy paralysis and final recovery in a case of forward luxation of the atlas from a fall on the head from a load of hay. The case affirms anew the importance of prolonged repose in such cases, with the spine and neck immobilized in plaster. Only solid growing together of the parts ensures a permanent cure and wards off tardy complications.

Retrograde Herniotomy.—Kinscherf applies this term to an operation through the inguinal canal to reach the obturator hernia in sound tissue, above the incarcerated portion of the loop.

Impacted Foreign Bodies in the Esophagus.—Zindel has encountered thirteen cases of this kind in the last thirteen years. The esophagus was incised in five cases as the coin or set of false teeth could not be released. In two cases there was hemorrhage the fourth or fifth day after the operation, fatal in one child. The attempt to push the soft or smooth foreign body down into the stomach failed in only one case; in this, a cherry stone had caught at a stricture left from an old caustic erosion.

Wiener klinische Wochenschrift, Vienna

Nov. 13, 1919, **32**, No. 46

*Carcinolytic Organic Acids. E. Freund and G. Kaminer.—p. 1105.
Circumscribed Cutaneous Edema in Diseases of the Abdomen. O. Hans.—p. 1107.
Variable Parasite Findings in Malaria. R. Reitler.—p. 1108.
Onychodystrophy After Typhus Fever. H. Grossfeld.—p. 1109.
Curability of Cancer. A. Fraenkel.—p. 1110.

Cancer-Destroying Organic Acids.—Previous research by Freund and Kaminer had shown that normal blood serum and normal tissues contain an organic fatty acid having power to destroy carcinoma cells. They have not succeeded as yet in establishing the exact formula of this fatty acid, so they refer to it as the "normal" acid, since it is the protective substance of normal cells. Carcinoma serum and carcinoma tissue, they find, do not contain this "normal" acid, but they do contain an unsaturated fatty acid that counteracts the effects of the "normal" acid, and thus forms a protective substance for the carcinoma cells. This acid they term the "carcinoma" acid. They have therefore come to regard the conflict between the human organism and the invading neoplasm as a conflict between two opposing substances. They admit that questions pertaining to the nature and origin of the "carcinoma" acid may be more important, but from the therapeutic aspect the analysis and production of the carcinolytic "normal" acid is also important, for they believe that if the "normal" acid can be produced in sufficient quantities, the growth of carcinoma cells can be at

least checked. Comparing the neutralizing properties of the two acids, they find that at least ten times as much "normal" acid as "carcinoma" acid is required to neutralize a given alkali. This, they think, explains the fact that concentrated solutions of "normal" acid, derived from horse serum, while they had some effect on epitheliomas, proved in the end no match for the much stronger "carcinoma" acid. Concentrated solutions of the "normal" acid being difficult to produce other than in small quantities, they conceived the idea of replacing it by a synthetic product. Starting with an analysis of the "normal" acid, they claim to have discovered the series of acids to which the "normal" acid belongs; namely, the saturated dicarboxylic acids. They have tested the action of various members of this series on carcinoma cells, and find that, while certain members exert a cytolytic action on these cells, others do not; for example, oxalic acid and malonic acid were not effective, whereas succinic acid was effective. Again, adipic acid and pimelic acid were not effective, whereas suberic acid was effective. This finding in itself is significant, that within a series of acids some members are cytolytic and some are not. Acids of many other series were tried; none of them proved to exert a cytolytic effect on carcinoma cells. Freund and Kaminer admit that they are still far from synthetic production of the required substance, but think that having found the series of acids to which it doubtless belongs, the way for further progress is clearly mapped out.

Zentralblatt für Chirurgie, Leipzig

Dec. 6, 1919, **46**, No. 49

Aneurysm of External Iliac Vein. E. Kreuter.—p. 977.
*Toxicity of Aseptic Crushed Tissues. T. Naegeli.—p. 981

Toxicity of Aseptic Crushed Tissues.—Naegeli injured the muscles of the thigh and pelvis in some guinea-pigs by pounding, and in others excised a scrap of muscle tissue or a kidney, and reimplanted them after an interval. The results confirm the toxicity of damaged tissues even when aseptic, and the importance of promptly clearing out all devitalized tissue. Mice injected with 1 c.c. of urine from a patient with a necrotic process nearly all died in from one to five days.

Zentralblatt für Gynäkologie, Leipzig

Nov. 29, 1919, **43**, No. 48

*Zinc Chlorid in Treatment of Uterine Hemorrhages. H. Hellendall.—p. 969.
*Reinfusion of Blood Lost from Tubal Abortion. E. v. Arnim.—p. 971.

Zinc Chlorid in Treatment of Uterine Hemorrhage.—Hellendall reports a case which warns against this method of treating uterine hemorrhage as it entailed complete occlusion of the cervix. Hematometra followed, with paroxysms of pain compelling supravaginal amputation of the uterus.

Reinfusion of Blood from Tubal Abortion.—Von Arnim relates that in twelve of a recent series of 135 operative cases of extra-uterine pregnancy, she reinfused into a vein from 300 to 1,000 c.c. of the woman's own blood, diluted with an equal amount of physiologic sodium chlorid solution with a little sodium citrate. The blood was scooped or soaked up from the abdominal cavity and passed through a funnel over some gauze as a filter. From the filter the blood passed into a receptacle containing the salt solution. The women recuperated from their moribund condition surprisingly fast. By the next day the pulse was good and full, the lips red, and strength was rapidly regained. The reinfusion caused intense cyanosis in one of the women, and attacks of pain in the chest with dyspnea and a chill in two others. Toxic action from the dying blood might explain these by-effects. Nothing suggesting edema in the lungs was evident in the one fatal case, the woman succumbing to peritonitis. This was the only fatality in these twelve reinfusion cases. The reinfusion consequently should be attempted only when the hemorrhage is recent. No case is known of embolism from reinfusion. No woman should be allowed to bleed to death after an operation for extra-uterine pregnancy, she affirms in conclusion, without having reinfusion attempted at least.

Zentralblatt für innere Medizin, Leipzig

Dec. 13, 1919, **40**, No. 50

*Recent Works on Pharmacology. C. Bachem.—p. 929.

Recent Works on Pharmacology.—Bachem reviews recent German literature on the action of drugs, old and new. One writer extols strychnin for its prompt efficacy in circulatory disturbances from paralysis of vessels, as in shock, collapse from poison, etc. The daily subcutaneous or intravenous dose of 3 or 4 mg. acts rapidly and does no harm. Silver salvarsan is extolled by some as the most potent treatment for syphilis yet known, but angioneurotic by-effects seem to occur more frequently than with other salvarsan preparations, according to some. Hoffmann has compiled cases of drug eruption transmitted by the mother's milk, bromid, salvarsan and acetylsalicylic acid eruptions. Instances of this are not so common as generally assumed. Several cases of poisoning from hydrocyanic acid are mentioned; it was inhaled in exterminating vermin. Fühner advocates as an antidote subcutaneous injection of a 5 per cent. solution of sodium thiosulphate (hyposulphite). Another writer warns that injections of caffein seemed to favor gas gangrene.

Mededeelingen v. d. Burg. Geneesk. Dienst, Java

1919, No. 7

Report on Dysentery Epidemic. E. P. Snijders and R. Pratomo.—p. 1.
*Breeding Places of Mosquitoes. N. H. Swellengrebel and J. M. H. Swellengrebel-de Graaf.—p. 39

Breeding Places of Mosquitoes.—Swellengrebel and de Graaf here report further research on the requirements of different species of mosquitoes for their breeding places. The different species seem to be constant in their habits but these habits differ in different species. They assert that their comprehensive and minute research in Java has apparently established that it is hopeless to attempt to do away with the breeding places for the larvae of the dangerous anophelines of the ubiquitous hill or shade-preferring kinds. They are not particular as to their breeding places, and general sanitation seems at present the only means of combating their larvae. The ludlowi, however, is so exceptionally dangerous, that special measures against it might be considered, including the doing away with its salt-water breeding places. This does not offer much hope of success, however, in view of the fact that if the more favorable breeding places are destroyed, the ludlowi might be driven to utilize other breeding places.

Hygiea, Stockholm

Nov. 16, 1919, **81**, No. 21

Formation of Corpora Lutea in the Ovaries. A. Westman.—p. 865.
*Treatment of Leg Ulcer. H. I. Schlasberg.—p. 880

Leg Ulcer.—Schlasberg emphasizes the importance of excluding syphilis and tuberculosis before treating a varicose ulceration. One woman with a positive Wassermann reaction had been treated for two years on the assumption that the ulcer was a syphilitic lesion. When this assumption was disregarded and treatment applied as for any varicose ulcer, the lesion soon healed. His method is to soften and cleanse with Burow's solution for three or four days. Then he applies a plaster, 24 gm. solution of lead subacetate and 136 gm. lead plaster mixed and spread on a 2,000 sq. cm. cloth. This plaster should extend 2 cm. beyond the edge of the ulcer. The leg is then wound with a bandage from ankle to knee. The bandage is taken off every day, and if there is much secretion the plaster is renewed; otherwise the plaster may be left, but not for longer than three days. In two weeks healing is evident and is soon complete, while there has been no interference with the earning capacity, and no impairing of the circulation as when the elderly have to stay in bed. This method has been applied to 21 men and 29 women in the last seven years. The ulcer was over three years' standing in 20 cases, and one to three years in 19. The area covered by the ulceration ranged from 3 by 2 to 15 by 13 cm. The lesion took from sixteen to 197 days for the complete cure. Recurrence is known in 6 cases, in from three to twelve months, but these patients had not followed the advice to wear the bandage for a time after the ulcer had healed.